Hanson De-Regionalization Study

Prepared for the Town of Hanson Board of Selectmen

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INTRODUCTION

The Town of Hanson hired the services of TMSolution, Inc. (TMS) to conduct a feasibility study of withdrawing from the Whitman-Hanson Regional School District. The principal members of the study team are Judith Houle, Ed.D., SFO, Senior Vice President and Chief Education Officer, and Michael DeBarge, BA, MSc, Finance Research Associate. The Town of Hanson is seeking to answer the questions below, each addressed in detail in the sections that follow:

1. Educational Impact: What are the potential impacts on current and future students, what curriculum choices would be lost or added, and what special education issues may arise, etc.?
2. Financial Impact: What would be the cost of withdrawal, who would own what assets, what potential state aid additions or subtractions would occur, and what the effect on the Town's taxpayers would be, etc.?
3. Legal Considerations: What is the statutory process that would have to be followed, what Town Meeting or other votes would be necessary, and what public forums would have to be held to discuss the issue, etc.?
4. Other Considerations: What would be the proposed timeline, what would be the step-by-step roadmap the Town would have to follow, and what other information should the Townspeople consider, etc.?

This report is based on a study of documents provided by the Whitman-Hanson Regional School District and review of documents on their website, an analysis of applicable regulations (600 CMR 41.00), financial and enrollment analyses from data provided by the New England School Development Council (NESDEC). In addition to these sources, the study team visited the Indian Head Elementary and Hanson Middle Schools with Superintendent Jeffrey Szymaniak and Facilities Director Ernest Sandland to view the facilities and learn about the capital and maintenance projects and issues in the buildings.

TMS holds no position as to whether it is either a positive or a negative for a community to be part of a regional school district or not. In each case, there are both advantages and challenges to a formalized relationship of this kind for a district already part of a region. Exiting it poses a great number of challenges, some may require large investments of time or effort, others are resulting in significant expenses to be incurred, and the ability to make such an effort under current legal and regulatory guidelines must be considered. Finally, some of the benefits

realized by membership in a region would be lost. Those challenges must be considered should the Town of Hanson choose to exit the regional district in whole or in part.

Hanson is part of the Whitman-Hanson Regional School District (WHRSD). A recent change to the district's regional agreement, changing the methodology for computing the towns' assessments of the district budget and increasing Hanson's share, has caused the Hanson Board of Selectmen to reconsider the value of remaining as a part of the regional district. To that end, the Town of Hanson is exploring its options.

There are three routes that the Town of Hanson could choose to take after review of this study. First, the Town of Hanson could pursue full withdrawal from the current Whitman-Hanson Regional School District. This would completely separate the Towns of Whitman and Hanson, and each would maintain and operate its own, standalone school district, with its own school committee, superintendent, and staff. This model allows for the greatest degree of autonomy but comes with the most financial obligations on each town, which would have to fund its schools on its own.

A second option would be to investigate a more complicated model of regionalization that falls short of the full regionalization in effect now but does not necessitate full withdrawal. This model would involve sharing certain staff categories, particularly the superintendent, other administrators, and central office staff. Under this arrangement, both Towns would have their own school committees, and could maintain separate K-8 school districts. The high school and preschool could then be shared through an agreement determining how costs would be divided between the two. This option allows for more flexibility beyond full withdrawal, though it also requires a continued agreement on how the new district would be governed. Within this option two modes of governance could be considered. Both would require separate School Committees for the K-8 level. Hanson could choose to fully separate at that level and enter into a tuition agreement with Whitman, which would require the establishment of a separate district-level administration and office. The second option would be to stay connected to the larger district but as a school union, with its own School Committee while sharing the current district-level services with Whitman. In this configuration, Hanson and Whitman would need a joint School Committee for the high school, in addition to separate Committees for the K-8 union districts.

The final option would be for the Town of Hanson to continue as a full member of the Whitman-Hanson Regional School District with no changes. This option provides the greatest degree of continuity, as the district would continue operating as it does now. All three options present positives and negatives, and this analysis intends to provide the necessary information

for the relevant stakeholders to make the decision regarding how to best educate the students of Hanson.

REGIONAL AGREEMENT

The towns of Whitman and Hanson entered into a regional agreement to form the Whitman-Hanson Regional School District in 1956. Citing increasing enrollments and the need for more space at the high school level yet realizing neither community had the capacity to continue to educate their high school students separately, they entered into this agreement to become a region for grades 9-12. The agreement has been revised four times since the region was formed.

The original agreement specified a two-thirds Whitman/one-third Hanson sharing of expenses for both the capital project of building the high school and its operating expenses. Subsequent amendments established the prior October 1 enrollments as the basis for determining each town's fiscal responsibilities for the fiscal year.

A major revision of the agreement became effective on July 1, 1992. This agreement established a Pre-Kindergarten through Grade 12 region. The new region specified that students in grades PK-8 would attend schools in the town of residence, apart from students attending specialized programs as recommended by the Superintendent and voted by the School Committee. This revision also enabled the towns of Whitman and Hanson to lease their facilities, grounds, and other educational equipment to the regional district. The School Committee was also tasked with maintaining the facilities and making major improvements as needed, following all required votes by the School Committee and the towns.

In 2020, the agreement was amended to comply with MGL c.70, §6, otherwise known as the statutory method for calculating the assessments to the towns. The agreement provided a phased approach to calculating the assessments as the proportionate share changed significantly because of following the statutory method, with a full implementation in FY 22. As of FY2022, the agreement spells out the regulations that guide the calculation of the assessments. The formula is outlined in the agreement as follows:

Operating Budget (excluding capital, debt, and transportation costs)

- (minus) Chapter 70 aid (as calculated by DESE)
- (minus) Aggregate Minimum Local Contributions of all member towns (as calculated by DESE)
- (minus) Other general revenue sources to the District

= (equals) Aggregate Above Minimum Contribution for all member towns.

The proportionate share of the Aggregate Above Minimum Contribution is then calculated by the ratio of the of students from each member town, including out-of-district students, as calculated on October 1 of the prior fiscal year for which the apportionment is assessed (i.e., the FY23 calculation will be based on the October 1, 2021 enrollment data).

Table 1 shows the comparison of assessments from FY19 to FY22, which include the most recent changes to the assessment methodology.

Table 1. Assessments Comparisons: FY19-FY22

ASSESSMENT DESCRIPTION	FY19	FY20	FY21	FY22
HANSON OPERATING	$8,913,341.00	$9,670,975.00	$11,214,176.79	$12,646,117.72
WHITMAN OPERATING	$13,270,185.00	$14,398,151.00	$15,367,391.75	$16,104,903.32
HANSON TRANSPORTATION	$103,828.00	$102,757.00	$98,322.00	$117,956.00
WHITMAN TRANSPORTATION	$381,357.00	$397,604.00	$401,177.00	$411,746.00
HANSON HIGH SCHOOL CAPITAL	$313,042.38	$303,184.00	$292,251.96	$277,465.02
WHITMAN HIGH SCHOOL CAPITAL	$466,057.62	$451,316.00	$437,648.04	$427,834.98
HANSON CAPITAL*	$134,556.00	$136,483.00	$117,969.46	$140,269.46
HANSON TOTAL ASSESSMENTS	$9,464,767.38	$10,213,399.00	$11,722,720.21	$13,181,808.20
HANSON TOTAL MINUS CAPITAL	$9,330,211.38	$10,076,916.00	$11,604,750.75	$13,041,538.74
WHITMAN TOTAL ASSESSMENTS	$14,117,599.62	$15,247,071.00	$16,206,216.79	$16,944,484.30

*HANSON CAPITAL is described in the FY19-21 budgets as technology. In FY22, the description states that it is dedicated to the school buildings. Per the regional agreement, special costs unique to a single town will be borne by that town alone and are not calculated as part of the shared costs or factored into the statutory method calculations.

As the figures below demonstrate, the alignment of the assessment methodology to the requirements of MGL c.70, §6 has shifted more of the financial burden for the regional district's local funding from Whitman to Hanson in the operating budget, which has increased Hanson's proportionate share, overall.

Figure 1. Operating Assessments

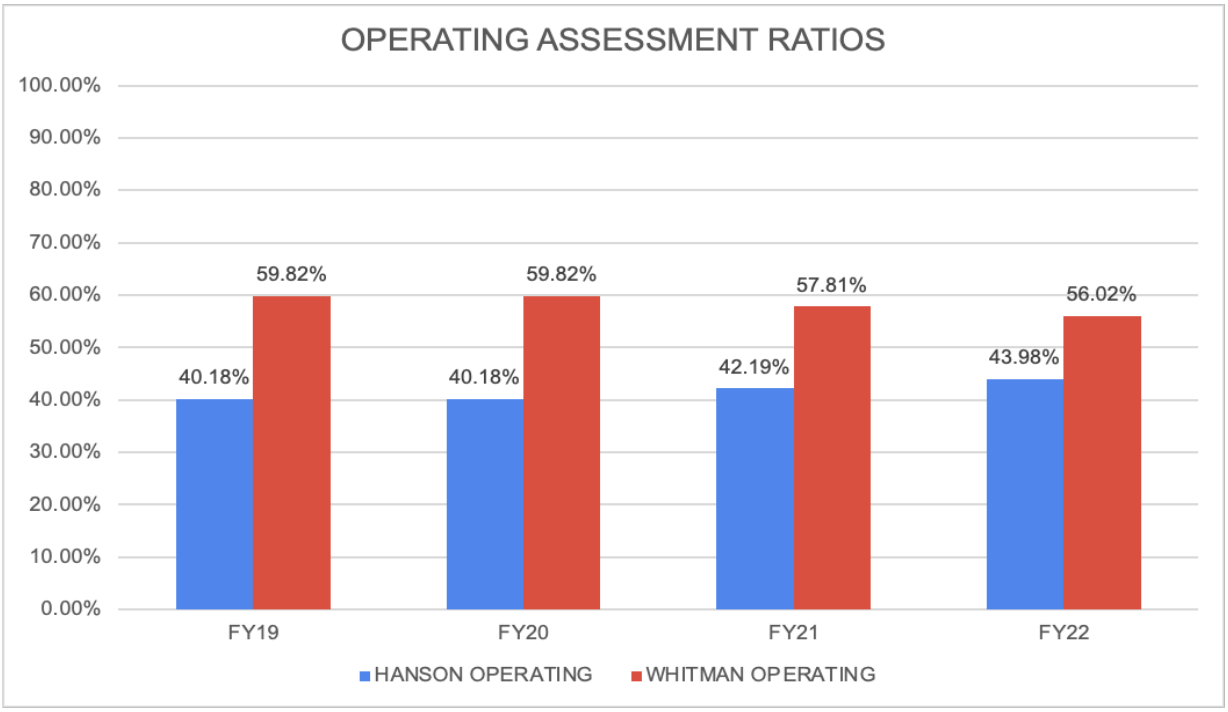


Figure 2. Transportation Assessments

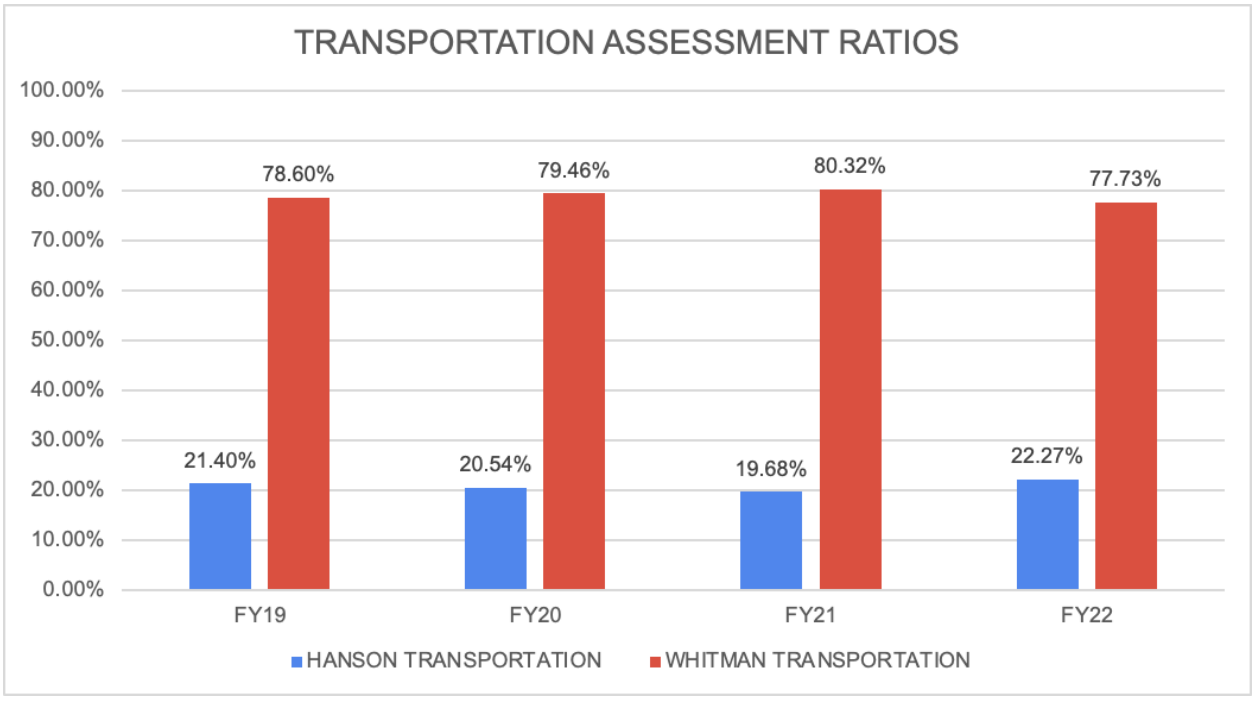


Figure 3. Shared Capital Assessments

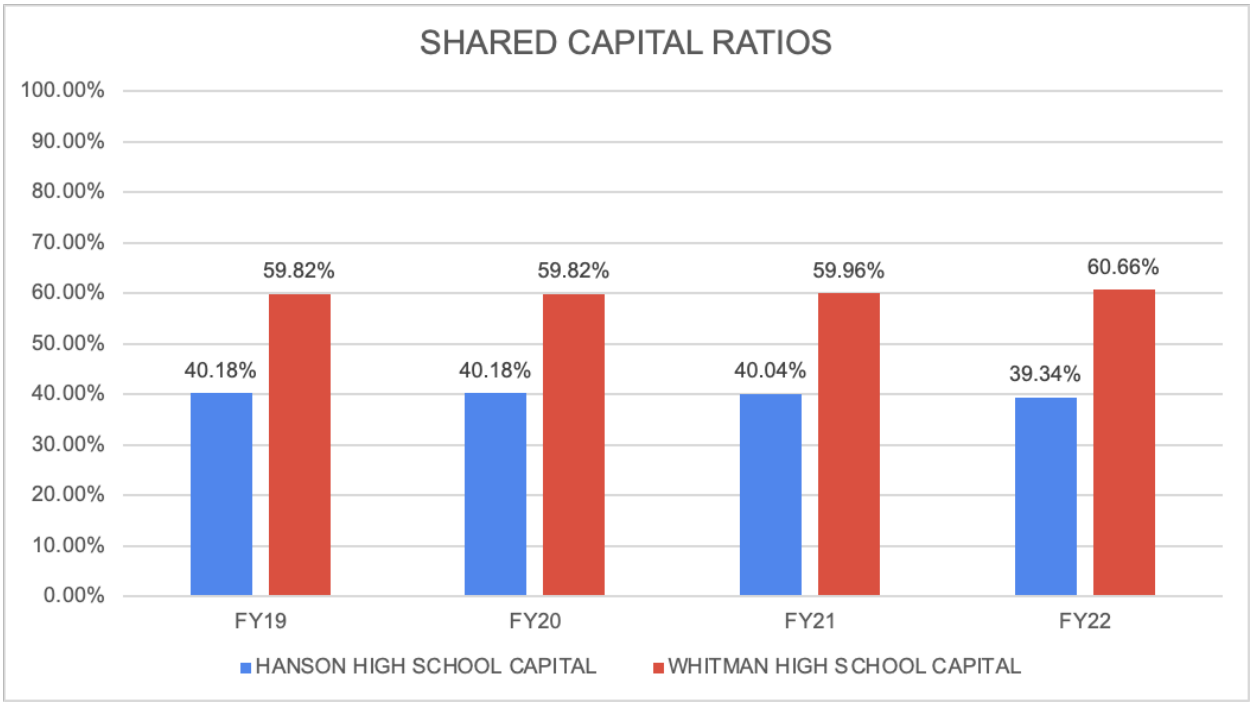
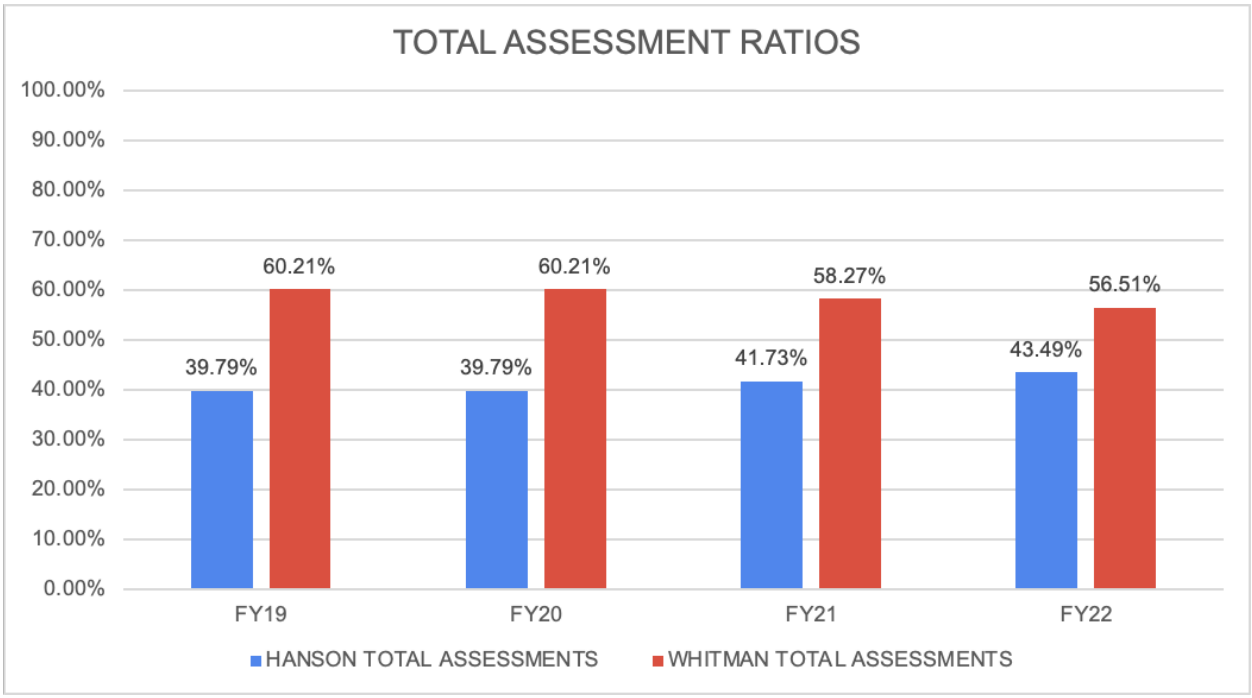


Figure 4. Total Assessments: Operating, Transportation, and Shared Capital



The shift in the ratio of financial responsibility for expenses that has resulted from the most recent amendment to the agreement has increased Hanson's overall percent from 39.79% in

FY19 to 43.49% in FY22, or an increase of 3.7% over the four-year period. It is this increase in the proportionate share that has caused the Hanson Board of Selectmen to pursue this study regarding the viability of separating from the region.

FACILITIES

Each town maintains its own elementary and middle schools. Currently, Hanson operates the Indian Head Elementary School for students in grades K-5 and Hanson Middle School houses students in grades 6-8. Whitman operates the Louise A. Conley Elementary School for students in grades K-5, the John H. Duval, Jr. Elementary School for students in grades K-5, and Whitman Middle School houses students in grades 6-8. At the regional level, there is a single Preschool Academy servicing Pre-K children for both towns. Whitman-Hanson Regional High School serves students in grades 9-12 from both towns.

The lease agreement between the Town of Hanson and the Whitman-Hanson Regional School District for the Indian Head Elementary School and the Hanson Middle School buildings is for zero dollars ($0) for the life of the lease. The lease took effect on July 1, 1992 for a period of twenty years, with an automatic extension for an additional twenty years. The current lease, unless terminated by either party, would renew itself again on July 1, 2032.

The district is responsible for all utilities and any costs associated with keeping and maintaining the buildings to ensure they are in good condition (Lease Agreement: Sections V and VI). The district is also responsible for any major capital improvements upon approval of the town. The lease agreement also specifies that the title to the buildings will remain with the district for the life of the lease.

Should the Town of Hanson decide to withdraw in whole or in part from the regional district and operate its own district, this would necessitate a ninety (90) day notice of cancellation by either party to the other. (Lease Agreement, Section II).

Capital Plan

A capital matrix was provided, outlining current and upcoming projects for both the town schools and district schools. The tables below show the projects for Hanson alone and the district, with Hanson's share broken out.

Table 2. Capital Projects for Hanson Schools (HMS = Hanson Middle School, IHES = Indian Head Elementary School)

LOCATION	PROJECT	STATUS	CURRENT	FUTURE	COMPLETE
HMS	REPLACE PHONE SYSTEM	APPROVED/ NOT STARTED		$ 32,102.00	
HMS	GYM ROOF REPLACEMENT	IN PROGRESS	$ 65,000.00		
HMS	GYM ROOF ADDITIONAL FUNDS	IN PROGRESS	$ 25,000.00		
HMS	RESURFACE GYM FLOOR	NOT STARTED		$ 25,000.00	
HMS	ROADWAY REPLACEMENT	NOT STARTED		$210,000.00	
HMS	HVAC FOR NETWORK CLOSETS	NOT STARTED		$ 20,000.00	
IHES	EMERGENCY REPAIR/ROOF UNIT	IN PROGRESS	$ 25,600.00		
IHES	REPLACE PHONE SYSTEM	APPROVED/ NOT STARTED		$ 27,948.00	
IHES	WINDOW BALANCES	IN PROGRESS			$ 25,000.00
IHES	PLAYGROUND UPGRADES/SAFETY	NOT STARTED		$ 20,000.00	
IHES	ROOF REPLACEMENT OLD LIBRARY	IN PROGRESS	$ 65,000.00		

LOCATION	PROJECT	STATUS	CURRENT	FUTURE	COMPLETE
IHES	LIBRARY ROOF ADDITIONAL FUNDS	IN PROGRESS	$ 25,000.00		
IHES	LEAD PAINT REMOVAL	NOT STARTED			
IHES	REPLACE/REFURBISH GENERATOR	NOT STARTED		$100,000.00	
IHES	STUDY DESIGN CLASSROOMS AC	NOT STARTED		$ 30,000.00	
IHES	HVAC FOR NETWORK CLOSETS	NOT STARTED		$ 15,000.00	
	TOTALS		**$205,600.00**	**$480,050.00**	**$ 25,000.00**
				GRAND TOTAL	**$ 710,650.00**

Table 3: Capital Projects for Whitman-Hanson Regional High School

PROJECT	STATUS	CURRENT	FUTURE	HANSON SHARE CURRENT	HANSON SHARE FUTURE
REPLACE PHONE SYSTEM	NOT STARTED		$222,341.00	$ -	$63,712.40
REPLACE PHONE SYSTEM/ADD FUNDS	NOT STARTED			$ -	$25,223.00
EXISTING FIRE LANE UPGRADES	IN PROGRESS	$82,500.00		$33,000.00	$ -
FIRE LANE UPGRADES/ADD FUNDS	IN PROGRESS		$23,000.00	$ -	$23,000.00
UPGRADE FIRE PANEL SYSTEM	NOT STARTED		$74,000.00	$ -	$29,600.00
UPGRADE FIRE SYSTEM DEVICES	NOT STARTED		$92,000.00	$ -	$36,800.00
INSTALL FIRE DEVICES - ELECTRICIAN	NOT STARTED		$45,000.00	$ -	$18,000.00

PROJECT	STATUS	CURRENT	FUTURE	HANSON SHARE CURRENT	HANSON SHARE FUTURE
REPLACE FLOOR TILES - CAFETERIA	NOT STARTED		$25,000.00	$ -	$10,000.00
REPLACE 1ST FLOOR CARPETING	NOT STARTED		$45,000.00	$ -	$18,000.00
REPLACE 2ND FLOOR CARPETING	NOT STARTED		$45,000.00	$ -	$18,000.00
REPLACE 3RD FLOOR CARPETING	NOT STARTED		$45,000.00	$ -	$18,000.00
REPLACE FLOOR TILES - NOT CAFETERIA	NOT STARTED		$30,000.00	$ -	$12,000.00
REPLACE GYM FLOOR TILES - YEAR 1	NOT STARTED		$20,000.00	$ -	$8,000.00
REPLACE GYM FLOOR TILES - YEAR 2	NOT STARTED		$20,000.00	$ -	$8,000.00
REPLACE GYM FLOOR TILES - YEAR 3	NOT STARTED		$20,000.00	$ -	$8,000.00
SAFETY LIGHTING - ROUTE 27	NOT STARTED		$20,000.00	$ -	$8,000.00
HVAC NETWORK DATA CLOSETS	NOT STARTED		$45,000.00	$ -	$18,000.00
INTERNAL COMMUNICATIONS SYSTEM	NOT STARTED			$ -	$ -
NEW PARKING SPACES	NOT STARTED		$55,000.00	$ -	$22,000.00
RESURFACE PARKING LOT	NOT STARTED		$350,000.00	$ -	$140,000.00
REPLACE DAMAGED PHOTOVOLTAIC PANELS	NOT STARTED		$35,000.00	$ -	$14,000.00
PURCHASE/INSTALL OUTDOOR SOLAR LIGHTING	NOT STARTED		$75,000.00	$ -	$30,000.00
ROADWAY REPAIRS - ACCESS ROAD	NOT STARTED		$350,000.00	$ -	$140,000.00
ROOF REPAIRS	NOT STARTED		$100,000.00	$ -	$40,000.00
ROOF TOP UNITS	NOT STARTED		$100,000.00	$ -	$40,000.00
REPLACE IRRIGATION SYSTEM - LOWER FIELDS	NOT STARTED		$20,000.00	$ -	$8,000.00

PROJECT	STATUS	CURRENT	FUTURE	HANSON SHARE CURRENT	HANSON SHARE FUTURE
REPLACE IRRIGATION SYSTEM - UPPER FIELDS	NOT STARTED		$20,000.00	$ -	$8,000.00
REPLACE 10 INSULATED WINDOW UNITS	NOT STARTED		$15,000.00	$ -	$6,000.00
WIRELESS POWER TOUCH - CURTAINS, BASKETBALL HOOPS: REPLACE MAT MOVER & ADD POWER TOUCH	NOT STARTED		$35,000.00	$ -	$14,000.00
BUILD OUT 2 HALF WALLS BY SCHOOL STORE/BANK LOCATION- STUDENT WORKSPACES/CHARGING STATIONS			$14,000.00	$ -	$5,600.00
REPLACE DATA CENTER BATTERY BACKUPS - CURRENT EXPIRES 2023	NOT STARTED		$60,000.00	$ -	$24,000.00
PERFORMING ARTS CENTER - REPLACE A/V SYSTEM	NOT STARTED		$80,500.00	$ -	$32,200.00
NETWORK SWITCHES	NOT STARTED			$ -	$ -
REPLACE SERVERS/STORAGE - AT END OF LIFE	NOT STARTED		$599,100.00	$ -	$239,640.00
REPLACE WIRELESS CONTROLLERS - AT END OF LIFE	NOT STARTED				$ -
REPLACE WIRELESS ACCESS POINTS	NOT STARTED				$ -
REPLACE/UPGRADE DATA STORAGE	NOT STARTED				$ -
REPLACE/UPGRADE VIDEO SURVEILLANCE SYSTEM/ INFRASTRUCTURE	NOT STARTED		$436,326.80		$174,530.72
REPLACE INTERACTIVE BOARDS	NOT STARTED		$876,000.00		$350,400.00
	TOTALS	**$82,500.00**	**$3,992,267.80**	**$33,000.00**	**$1,610,706.12**
				HANSON GRAND TOTAL	**$1,643,706.12**

Facilities Walk-Through

Mr. DeBarge and Dr. Houle visited the Town of Hanson and conducted a walk-through of the town's school buildings with Superintendent Syminiak and Facilities Director Sandland. Below is a summary of the tours.

Hanson Middle School opened in 1998, housing students in grades 6-8 at a capacity of 600. The enrollment as of October 1, 2020 is 454 students. The facility is 83,700 square feet, including an addition constructed after the original building was built and comfortably accommodates the students currently enrolled. Based on the enrollment projections provided by the New England School Development Council (NESDEC, see Appendix A), the current capacity should hold as enrollments continue to decline.

During the tour, several items were highlighted. First was the installation of new boilers in concert with the Green Communities Act, raising energy efficiency. On demand hot water heaters have also been installed, which has also resulted in energy savings on the system. The PTO generously funded air conditioning units for classrooms and a recent installation of split systems in the computer lab and library have provided necessary climate control, which is an increasing issue in the face of climate change. The school has a 560-seat auditorium with a small audio-visual booth that can be used for events and larger scale educational opportunities. There is also a fitness center in the building, which is part of the overall wellness program for students. A new roof was installed over the gymnasium in the spring of 2021.

Indian Head Elementary School opened in 1951, an addition was constructed in 1961, and a renovation/addition was completed in 1999. The facility is 74,888 square feet and comfortably accommodates students in grades K-5 from the town. Its capacity is approximately 550 students. The October 1, 2021 enrollment 470 students. The enrollment projections through 2030, provided by NESDEC, indicate that the enrollment in Hanson will continue to decline over the next ten years, albeit at a somewhat slower rate than the last ten years. The building should continue to accommodate the number of students projected to attend the school in these grades. The unknown factor is what Hanson might do about its preschool population and the potential for increased space for Special Education programs.

During the tour, it was apparent that the district and the town take great pride in their school buildings. The district currently outsources its custodial services to a cleaning company. That arrangement is working well for the district, as both buildings were clean and inviting. Should Hanson decide to withdraw from WHRSD, this will be a factor that needs to be considered, as there would be a need to (1) enter into an agreement with the current vendor under a contract

that might be in force, (2) go out to bid for a separate contract, or (3) hire their own personnel. The third option would require the town to budget for salaries and benefits for these employees. There could be some increased costs under options 1 and 2, and there would be a likely increase under option 3 due to the additional expense for medical insurance, retirement contributions, and other benefits, the extent of which would need to be determined.

Director Sandland referenced several projects on the Hanson capital list shown in Table 2, above. At Hanson Middle School, roof repairs are of a high priority, as are some equipment upgrades in the kitchen, and the need to address egress in the gymnasium for those with physical disabilities. Indian Head Elementary School's emergency HVAC roof unit replacement, roof replacements for areas that are failing, and window replacements were primary safety concerns that have been addressed. The playground at IHES needs attention and there are places within the building that contain lead paint that need to be addressed. The lead paint has been encapsulated, so there is no immediate safety issue.

The original windows at IHES were double-hung windows, operated by weights in the frames. The glass itself was not energy efficient and the weights were not holding the windows as they should. The replacement windows are also double-hung but have been modernized to not require weights to operate. The glass is also more energy efficient. The work toward better energy efficiency is not fully completed, but much progress has been made on this front. There is a need to update the energy control system, allowing for remote access to the systems in both buildings in person and remotely. Hanson's ability to ensure energy cost savings over time will require continued investments in infrastructure.

Any of the items on the list for HMS and IHES are ones that would be fully borne by the town of Hanson, regardless of its status with Whitman. The total estimated cost of completed, current, and future projects is $710,650.00.

There are also several projects on the list for Whitman-Hanson Regional High School. These are outlined on Table 3, above. The projects total $3,992,267.80. Under the current agreement, Hanson's share is estimated at approximately 40%, totaling $1,643,706.12. The fate of these anticipated costs rests in the decision to be made by the town of Hanson regarding whether they will remain as part of the WHRSD or separate from it in whole or in part. If any of these items were to require short-term borrowing, Hanson would be liable for the debt incurred at the time of the separation.

Technology

Technology infrastructure and end use is inextricably linked to the facilities in which these systems are housed. WHRSD is on a path toward implementing a 1:1 ratio of devices to students across the district. A recent assessment of the network infrastructure by Custom Computer Specialists, Inc. of Lincoln, RI speaks to the issues the district faces to ensure that educators and students can leverage technology as a tool for learning. TMS reviewed a report submitted by the company of their assessment of the system.

The network is routed through WHRHS via high-speed fiber that comprises the backbone of the network. Traffic is routed through a series of network switches. The report, completed in 2019, indicates that the switches are at the end of their lifespan and will need replacement. The recommendation is to completely replace the network switches with a new system to improve security, scalability, resiliency, and support growth of devices on the system.

The wireless network is also in need of upgrading. As additional devices are added to the network, the access points that allow those devices to connect to the network and the Internet must be able to handle the increased traffic and bandwidth necessary to allow multiple devices to access content simultaneously.

The district also uses a combination of physical and virtual servers. A key server set is for Microsoft Exchange, which is out of date and no longer supported by Microsoft, according to the report. There are an additional 41 servers for the purposes of data storage and to support the Active Directory. The servers range in age from a few years old to over a decade old.

Additionally, there are three virtual environments that support the district's technology needs. Custom Computer Specialists, Inc. noted that these virtual environments are also out of date and need to be migrated to ensure proper technical support, provide bug fixes to ensure better stability, and security fixes to decrease data vulnerability.

Technology use and compatibility will be greatly impacted by a decision on the part of Hanson to withdraw from the district in whole or in part. If there is a total withdrawal, Hanson will need to build a standalone network of physical and virtual servers, as well as its own wireless network infrastructure. If Hanson remains with the district in some capacity, this is an area that will need to be addressed for integration of systems and how a separate district will maintain and upgrade the system.

Additional consideration must also be given to the systems for student and employee data, financial accounting and information systems, energy management, point-of-sale systems for food service, security monitoring, and educational platforms that are used to provide instruction to students. Currently, single platforms service all functions of the regional district. If Hanson were to separate from the district in some way, consideration would need to be given to either standing up their own systems or making sure that systems are compatible if a full separation is not implemented. All this work would come at a cost that would be contingent on how fully Hanson might separate from Whitman.

EDUCATIONAL IMPACT

TMS reviewed curriculum documents shared by district staff and the Program of Studies for the 2021-2022 school year posted on the Whitman-Hanson Regional High School website. In addition to these documents, information from the technology department was shared and reviewed in the context of its role in supporting curriculum and instruction.

Curriculum Review

The WHRSD provided documentation of the curriculum work in progress in the district. As a matter of general practice in PK-12 schools, curriculum development, revisions, and implementation are ongoing practices, usually governed by a systematic plan of stages developed over a several-year period organized by content areas. It is clear from the documentation provided, that the district is paying attention to the curriculum and instructional needs of its students.

Should the Town of Hanson decide to withdraw from the district in part (elementary and middle schools only), there would be a need to ensure that Hanson students are receiving the same levels of curriculum and instruction as their Whitman counterparts. If Hanson were to fully withdraw from the district, the stand-alone district would need to ensure that resources are continued to be provided to ensure that someone is overseeing this work and continuing it forward. This would require hiring a curriculum director to manage the work. A reasonable range for that position would be between $140,000 and $150,000.

All the curricula discussed below is supported by technology. As is the case with all schools across the United States as a result of the COVID-19 pandemic, WHRSD has had to enhance all its curriculum and instruction with online platforms. The district uses Google Classroom and a host of other programs to support teaching and learning. To make the sign-on process easy regardless of the platform, WHRSD uses Clever to allow for a single sign-on to any of its

applications for education. In addition to these actions driven by the pandemic, most instructional resources, including textbooks, have an online interface that allows students to access content and collaborate with peers both in and outside of the school day and building.

Elementary-Middle Schools

At the elementary level, pacing guides were shared for both English Language Arts (ELA) and Mathematics instructional materials. A commercial ELA guide, provided by the Houghton Mifflin Harcourt publishing company's *intoReading* series, demonstrates alignment with the Common Core State Standards (CCSS) on which the Massachusetts ELA curriculum framework is based. The document shows a crosswalk between the highest priority standards and the skills and resources presented in the materials. To fully understand its efficacy, TMS searched for additional information from EdReports.org, Inc., a non-profit organization that has put together a national database of reports for instructional materials that are reviewed by educators across the country to assess their quality in three gateway areas: (1) text quality and (2) building knowledge (both in alignment with curriculum standards); and (3) usability for both students and teachers. The ratings by EdReports.org's reviewers indicate that this program meets expectations in all areas.

Information on the Massachusetts Department of Elementary and Secondary Education's (DESE) website further breaks down the ratings of the *intoReading* series for standards and rigor, as well as usability broken down by accessibility for students and usability by teachers. These ratings also show that this program meets expectations across the board. DESE has not yet determined the impact on student learning. However, with this program meeting the expectations in all areas by both organizations, it is assumed that WHRSD has chosen a high-quality ELA program in which to instruct their students in grades K-8.

The mathematics guide from *i-Ready Classroom Mathematics*, which is published by Curriculum Associates, showed a scope and sequence of curriculum standards in each grade and across grade levels. TMS again searched EdReports.org, Inc.'s database to assess their quality in three gateway areas: (1) focus & coherence in alignment with standards, (2) rigor & mathematical practices, and (3) useability for teachers and students. Their reviews are independent, versus those that are produced by a particular publisher. The review from EdReports.org shows that *i-Ready Classroom Mathematics* meets expectations in all three domains.

Information on the Massachusetts Department of Elementary and Secondary Education's (DESE) website further breaks down the ratings of the *i-Ready Classroom Mathematics* for standards and rigor, as well as usability to accessibility for students and usability by teachers.

These ratings also show that this program meets expectations across the board. What has yet to be determined by the DESE is the impact on student learning. However, with this program meeting the expectations in all other areas by both organizations, it is assumed that this is a high-quality mathematics program in grades K-8.

In this regard, it can be concluded that, should Hanson move forward with a withdrawal, they would be in a good position to ensure that their elementary and middle school students would be well served by these two programs. However, considering continuing research on how children learn, changes in standards for learning, and updating knowledge, the work of curriculum and instruction is very dynamic. Hanson would need to ensure that resources are allocated to ensure that students are receiving the best possible curriculum, supported by high-quality instruction. This requires continued attention to instructional resources and professional development of the teaching staff. All of this comes at a cost of several thousand dollars each year, which Hanson would need to bear alone versus sharing with Whitman.

It is less clear what the status of the core areas of science and social studies are at this point, as there were limited documents to review at the elementary level. Documentation was provided for the middle school. Documentation from other curriculum areas (i.e., visual and performing arts, health, and physical education) was not available as of the writing of this report.

Table 4, below, shows the areas of curriculum that were analyzed for the purpose of this report and what documentation was shared.

Table 4. Curriculum Matrix, Elementary and Middle Schools.

Grade Span	Content Area	Curriculum Documentation
K-5	ELA	Pacing guide *intoReading* program
6-8	ELA	District-created pacing by units of study
K-8	Mathematics	Pacing guide *i-Ready Classroom Mathematics*
6-8	History & Social Studies	District-created core course listing and major topics of study
6-8	Science	District-created curriculum maps of units of study, activities, and preliminary standards alignment

Whitman-Hanson Regional High School

The documents shared with TMS for WHRHS's curriculum show a scope and sequence of major concepts covered in a variety of content areas. In addition to these documents, TMS reviewed

the 2021-2022 Program of Studies, posted on the district's website. The complete 2021-2022 Program of Studies is contained in Appendix B.

The Program of Studies opens with a statement of core values and beliefs, followed by a set of learning expectations for all students who graduate from WHRHS, shown below.

Core Values and Beliefs:

Students learn best when…

- all decisions are made in their best interest.
- provided with a safe, secure, and healthy environment.
- high academic standards provide an opportunity for each student to reach his/her full potential.
- technology is utilized as an essential part of teaching and learning.
- provided with student-centered learning environments where successes and mistakes are valued as part of the learning process.
- personal responsibility and an understanding and respect for others are embraced.
- staff initiative, innovation and professional development are supported.
- the responsibility for education is shared with students, parents, and the community.
- broad-based communication and school-family-community partnerships are promoted.

Student Learning Expectations:

1. Read, write, and communicate effectively.
2. Utilize technologies appropriately and effectively.
3. Apply critical thinking skills.
4. Explore and express ideas creatively.
5. Participate in learning both individually and collaboratively.
6. Demonstrate personal, social, and civic responsibility.

(WHRHS 2021-2022 Program of Studies, p. 4)

The program of studies outlines the graduation requirements, as noted in Table 5, below.

Table 5. WHRHS Graduation Requirements.

Graduation Requirements	
English Language Arts	16 credits
Mathematics	16 credits
Science	12 credits
Social Studies	12 credits
World Language	8 credits in a single language
Physical Education	8 credits
Health	2 credits
Computer Literacy (Financial Literacy required for the Class of 2024 and beyond)	4 credits
Electives	10-20 credits

Additionally, the WHRHS has aligned its expectations for college readiness with the Massachusetts State Universities and UMass minimum admissions requirements, as noted in Table 6, below.

Table 6. Admissions requirements for Massachusetts State Universities and UMass.

Subject	Requirements for first-year students		
	Fall 2015	Fall 2016	Fall 2017 and beyond
English	4 courses		
Mathematics	3 courses (Algebra I & II and Geometry or Trigonometry or comparable coursework)	4 courses (Algebra I & II and Geometry or Trigonometry, or comparable coursework) including mathematics during the final year of high school*	
Sciences	3 courses (from Natural Science and/or Physical Science and/or Technology/ Engineering, including 2 courses with laboratory work).		3 courses (from Natural Science and/or Physical Science and/or Technology/ Engineering), including 3 courses with laboratory work*
Social Sciences	2 courses (including 1 course in U.S. History)		
Foreign Languages	2 courses (in a single language) *Note: American Sign Language (ASL) is a foreign language.*		
Electives	2 courses (from the above subjects or from the Arts & Humanities or Computer Sciences)		

Source: *Undergraduate Admissions Standards for the Massachusetts State University System and the University of Massachusetts, Reference Guide 2019.* Massachusetts Department of Higher Education, Boston.

The Program of Studies defines three pathways for student learning:

1. Academic: courses with challenging curriculum and high expectations for student learning, designed to prepare students for college and career.
2. Honors: courses designed for students who demonstrate ability and intrinsic motivation to achieve at high levels in a rigorous academic program.

3. Advanced Placement (AP): courses designed to help students earn college credit while still in high school in an advanced level offering, requiring them to pass an Advanced Placement Exam to earn those credits. WHRHS offers AP courses in the following areas.

Table 7. AP Courses at WHRHS.

Academic Discipline	AP Courses
English Language Arts	English Literature English Language
Mathematics	Calculus Statistics
Science	Biology Chemistry Physics Environmental Science
Social Studies/Social Sciences	US History Modern European History US Government & Politics Psychology
Technology	Computer Science
World Language	Spanish

A review of curriculum documents provided by WHRHS shows that attention has been paid to the sequence of learning experiences by each department, with curriculum maps that show units of instruction for each of the core courses and most electives in those areas and the learning progression that occurs, demonstrating a flow that increases and deepens learning over the course of a student's high school career.

Specialty Offerings

WHRHS offers a global awareness program, which leads to a Global Awareness Certificate. To achieve this certificate, students must complete a course in Modern World History and two years of the same World Language. Additional requirements include three of the following list of courses:

1. AP Modern European History
2. Modern China

3. Global Studies Independent Research
4. Minimum of three years of the same World Language or AP Spanish
5. Spanish or French practicum
6. Pre-approved, relevant virtual high school course.

Students may also engage in an independent learning experience under the guidance of a teacher for a maximum of four credits.

Each department at WHRHS has a robust set of core courses and electives. The electives provide an interesting set of experiences, designed to meet the interests and needs of the students. Elective classes in film and video production, visual and performing arts, consumer science, business and technology, specialized health and wellness offerings, marine biology, astronomy, as well as many other options within each academic discipline allow students to pursue their passions as they build the knowledge and skills necessary to success in college and career.

One of the key considerations for Hanson, as the town explores its options, is to consider whether a stand-alone high school would be able to support the breadth of Advanced Placement and elective courses that are offered in the current regional district. An unintended consequence for the Town of Whitman would be a potential loss of some of the richness of the program offered, should Whitman become a stand-alone district as a result of a decision by Hanson to withdraw.

Athletics and Extracurricular Activities

Another area for consideration by the Town of Hanson through the decision-making process is outside-of-school activities at the secondary level. These activities engagestudents in a variety of opportunities for learning, growth, and development of leadership skills, necessary for success in college and career.

Currently, WHRHS has a wide range of athletic programs and extracurricular activities. According to the district website,

> Whitman-Hanson has a rich tradition of success in athletics with teams competing in 27 varsity sports during each of the three athletic seasons. Each of these sports also offers opportunities for sub-varsity competition. The Panthers compete in the Patriot League and maintain membership in the Massachusetts Interscholastic Athletic Association.

WHRHS currently sponsors forty (40) extracurricular activities in a variety of areas, giving students the opportunity to further explore their interests and passions. Offerings include visual and performing arts, math and science, social science and cultural explorations, and collaborative leadership opportunities.

These are critical areas that Hanson must consider as a consequence for itself as well as the students of Whitman. If a full withdrawal were to be the decision of the town, would that decimate these programs? Would either town, by itself, be able to field the number of teams that they currently do as a region? Would there be a need for cooperative agreements to maintain the level of athletics currently offered to students? Would opportunities for extracurricular activities be reduced in some way by virtue of a split between the two? What would be the impact on students' lives as a result?

Special Education Services

Students who are eligible for special education services receive specially designed instruction, determined by the development of an Individual Education Program (IEP). These programs range from supports provided in the regular classroom, specialized instruction during part of the school day in areas in which a student's IEP requires those services, additional supports such and speech and language services, occupational therapy, and/or physical therapy. Other students' disabilities are such that they require more intensive programming in a substantially separate classroom. Children are eligible for these services under the Individuals with Disabilities Education Act (IDEA) from the ages of 3-21.

The Whitman-Hanson Regional School District offers a preschool program for all its students ages three and four, housed in the Whitman-Hanson Regional High School. This program is designed to serve all students identified as needing services, as early as age three, under IDEA. The program, by design, also includes students without disabilities as defined by IDEA, so all the children enrolled in the program can learn essential life and social skills necessary for success in later years.

The required and necessary part of a child's learning path from age three through graduation and beyond would also be an area of further investigation, should Hanson decide to withdraw from the district in whole or in part. Of the options that could be considered for preschool is to pay tuition for students with disabilities to the Whitman program or establish a stand-alone program and offer programming for role model students, paid by parents of those students. If the latter is an option, there would need to be appropriate spaces found within Hanson's school buildings and the building of a specific playground, as required, that would be age

appropriate for three- and four-year-old children. The choice of a stand-alone option would incur additional costs for Hanson to hire additional staff (teachers and paraprofessionals, along with Special Education service providers), establish and maintain dedicated space for preschool learning and a developmentally appropriate playground area.

Whitman and Hanson also share special education programming for students in their K-8 populations. These programs are designed to meet the needs of specific disabilities of students and those students ages cannot span past 48 months in a substantially separate program. The benefit of a regional agreement is that programs can be shared by the two towns that can meet students' needs within the age span requirements, as shown below.

Table 8. Special Education programs, K-8. (TLC = Therapeutic Learning Center, SLC = Student Learning Center, LBLP = Language-Based Learning Program)

WHITMAN	**IEP STUDENTS**				**HANSON**	**IEP STUDENTS**		
Conley	81				Indian Head	83		
Duval	90				HMS	99		
WMS	77							
	248					**182**		
Programs		Whitman	Hanson		**Programs**		Whitman	Hanson
		Students	Students				Students	Students
TLC-CONLEY		5	4		LBLP-IH		6	5
SLC-DUVAL	cognitive	6	1		LBLP-HMS		4	30
SLC-DUVAL	cognitive	4	2		TLC-IH		0	6
SLC-DUVAL	Autism	5	3		SLC HMS		4	6
SLC-DUVAL	Autism	2	2			TOTAL:	8	42
TLC-WMS		5	1					
	TOTAL:	27	13					
Staffing					Staffing			
	Teachers	Salaries				Teachers	Salaries	
sub sep	7	$571,297			sub sep	3	$170,389	
inclusion	9	$750,986			Inclusion	7	$555,683	
reading	3	$276,882			LBLP	3	$267,012	
Speech	4	$296,561			Speech	3	$257,961	
Paras	54	586,880.59			Reading	3	$269,250	
		$2,482,607			Paras	24	$431,274.16	
							$1,951,569	

The consequences of a split between Hanson and Whitman at these grades are as follows:

- Whitman has no Language-Based Learning Program (LBLP) program. Two programs would be needed.
- Indian Head Elementary School has no programs to address more severe cognitive disabilities. A program would need to be established and funded to meet the needs of these students.
- Hanson Middle School has no Therapeutic Learning Center (TLC) program. One would need to be established.
- Indian Head Elementary School would need to establish programming for students on the Autism Spectrum.
- Occupational and Physical Therapy services would need to be expanded to meet the needs of the additional programming required.
- Staffing will need to comply with regulations of 8 students to 1 licensed teacher or 12 students to 1 licensed teacher with 1 classroom paraprofessional to assist in that setting.

This would require additional costs for both towns to either establish stand-alone programming or for Hanson if the two were to come to a tuition agreement between them for programming to remain intact. If Hanson were to assume all responsibility for their special education students, three options would need to be considered: (1) housing programs internally, (2) entering into a tuition agreement with Whitman to share programming as it does currently, or (3) send students to an out-of-district placement. Under option 1, Hanson could be looking at establishing additional programs with additional staffing, at an annual cost of approximately $175,000-$200,000 for staffing based on the needs outlined above, plus benefits. Hanson would also need to ensure that they have sufficient educational spaces within current buildings to house these programs. Option 2 would come at a cost that would need to be determined by an agreement for a tuition rate and the number of students who would require services. Under option 3, appropriate programming would need to be sought out elsewhere and agreed to by the school staff and parents/caregivers of the students involved. If the placement is a day placement, tuition can range anywhere from $50,000-$80,000 or more per student annually, plus the cost of special education transportation to and from the placement.

At WHRHS, there are a total of 162 students receiving Special Education services. Of that number, 63 students are from Hanson and 99 students are from Whitman. The services range from full inclusion in the regular classroom with special education support, to substantially separate classrooms providing intensive support to students with high needs. If Hanson were to separate from Whitman at the high school level, there could be a potential loss of efficiencies in

service delivery and an increase in costs in either tuition or staffing and housing those programs, as noted above for the K-8 students.

FINANCIAL IMPACT

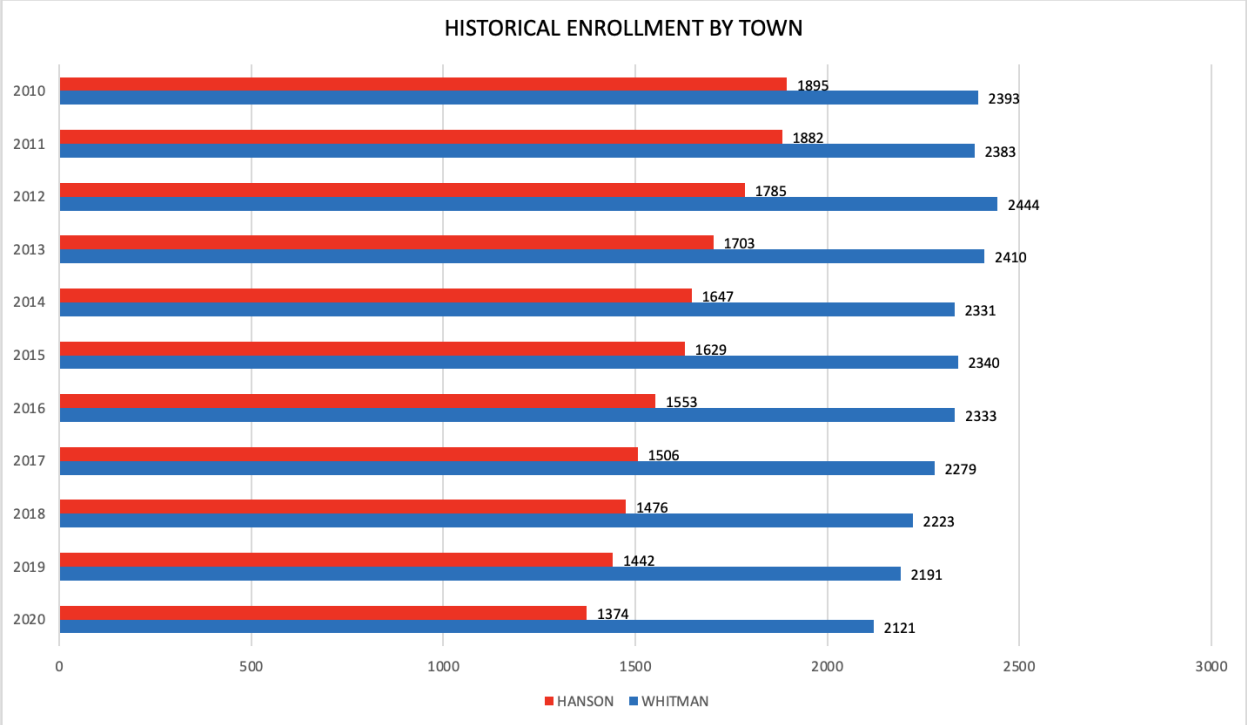
State Aid and Enrollment

Enrollment

The New England School Development Council (NESDEC) conducted enrollment studies for the towns of Hanson and Whitman, as well as for the combined district. Copies of these reports are contained in their entirety in Appendix A.

Both towns are facing enrollment declines, as is much of the country. In the period of 2010-2020, both towns faced declining enrollment, with Hanson outpacing Whitman, as shown in Figure 5 below.

Figure 5. Historical Enrollment comparisons between towns, 2010-2020.

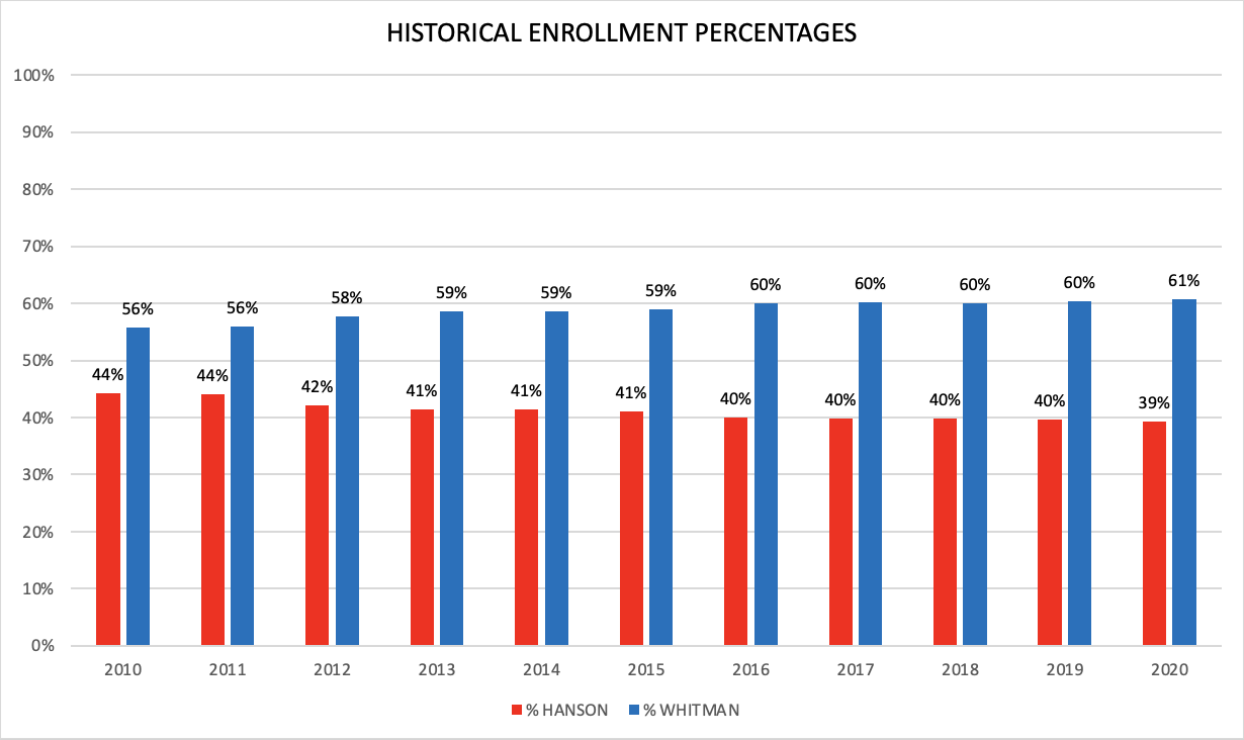


Source: NESDEC Enrollment Projection Reports for Hanson and Whitman, 2021.

This decline in enrollment resulted in a decrease in the foundation enrollment, as outlined below. While both Hanson and Whitman decreased in enrollment over the 2010-2020 period,

Whitman's student enrollment decreased by 272, while Hanson's enrollment decreased by 521. Figure 6 shows the percentage of Hanson and Whitman students to the total enrollment of the district over this same period. There was a drop in the ratio of Hanson to Whitman students by five percentage points.

Figure 6. Historical percentages of Hanson and Whitman students, 2010-2020.



Source: NESDEC Enrollment Projection Reports for Hanson and Whitman, 2021.

Foundation Enrollment

This analysis used data from the Massachusetts Department of Elementary and Secondary Education (DESE) to look at foundation budgets and enrollments for insight into Hanson's current situation. We included data for Whitman for comparative purposes.

The DESE defines foundation enrollment as:

> A count of the number of pupils for whom a school district is financially responsible on October 1st of any given year. It comprises primarily local resident school children attending their community's local or regional school district. However, it also includes students for whom the district is paying tuition, such as those at Commonwealth charter schools, other school districts, special education schools and other settings. It does not include tuitioned-in students from other districts, because their home districts are paying for those students' costs.

Hanson has experienced a drop in foundation enrollment every year from FY15 to FY21, a total decline of nearly 14%. Both in absolute terms and proportionally, the decline in Hanson's foundation enrollment has outpaced the continued decline in Whitman, so while both towns have experienced a decrease in enrollment, Hanson is more significantly impacted.

Table 9 shows the impact of declining enrollments for the period of 2015-2021 on the foundation enrollment for Hanson. It should be noted that the foundation enrollment numbers below differ from the actual enrollment in the public schools in the district, as it is based on full-time equivalencies (FTEs) versus the actual student counts on which the NESDEC calculations are based.

Table 9. FY15-FY21 Foundation Enrollment.

Fiscal Year	Hanson	Whitman	Hanson % Incr/ Decr	FY15 to FY21 % Incr/ Decr Hanson only
2015	1701	2366		
2016	1653	2311	-2.82%	
2017	1634	2305	-1.15%	
2018	1565	2295	-4.22%	
2019	1524	2257	-2.64%	
2020	1491	2217	-2.14%	
2021	1465	2194	-1.74%	-13.87%

Source: Massachusetts Department of Elementary and Secondary Education.

Foundation enrollment continues to decline, with an overall decrease of 13.87% from FY15 to FY21. Ch.70 State Aid funding for districts experiencing declining enrollment has been a fixed dollar amount per foundation enrollment. The table below illustrates the increase in Ch.70 funds from FY15 to FY21, which was the state set per foundation enrollment each year.

Table 10. Ch.70 State Aid per Foundation Enrollment.

Fiscal Year	Foundation enrollment	Chapter 70	Increase	$ Per Foundation
2015	4067	$24,120,485.00		
2016	3964	$24,219,585.00	$99,100.00	$25.00
2017	3939	$24,436,230.00	$216,645.00	$55.00
2018	3860	$24,552,030.00	$115,800.00	$30.00
2019	3781	$24,665,460.00	$113,430.00	$30.00
2020	3708	$24,776,700.00	$111,240.00	$30.00
2021	3659	$24,776,700.00	$0.00	$30.00

Source: Massachusetts Department of Elementary and Secondary Education.

Foundation Budget

The DESE defines the Foundation Budget as "an adequate spending level for a school district." While foundation enrollment has dropped during the FY15-FY21 period, the foundation budget has increased by nearly 1%. There are three major factors that drive foundation budgets, being 1) foundation enrollment (FTEs), 2) inflation, and 3) wage adjustment factor. A decline of 13.87% in foundation enrollment from FY15 to FY21 corresponded to an increase of .76% in foundation budget during the same period. This means that the decrease in enrollment was offset by an increase in inflation and/or wage adjustment factor.

The inflation factor is determined each year by statute and is applied to components of the foundation budget. The wage adjustment factor is a calculation by which districts are essentially "given credit" for having higher costs in areas where wages are higher. The wage adjustment factor is calculated annually by the State Department of Employment and is then applied to the salary categories in the foundation budget.

Table 11. FY15-FY21 Foundation Budget

Fiscal Year	Hanson	Whitman	Hanson % Incr/ Decr	FY15 to FY21 % Incr/ Decr Hanson only
2015	$15,963,935	$22,209,128		
2016	$15,980,016	$22,342,344	0.10%	
2017	$15,900,964	$22,432,548	-0.49%	
2018	$15,501,644	$22,731,960	-2.51%	
2019	$15,627,947	$23,152,876	0.81%	
2020	$16,032,362	$23,837,726	2.59%	
2021	$16,085,993	$24,097,490	0.33%	0.76%

Source: Massachusetts Department of Elementary and Secondary Education.

Minimum Contribution

In determining the minimum budget required for school districts in Massachusetts, the foundation formula and the determination is the following:

Ch.70 Aid + Minimum Required Local Contribution = Minimum Required Net School Spending.

From FY15 to FY21 there was a 38% increase in the minimum required contribution from Hanson. This underscores that there is a growing obligation on both Hanson and Whitman to provide increased funds for the schools each year, despite declining enrollments.

Table 12. FY15-FY21 Minimum Contribution by Town.

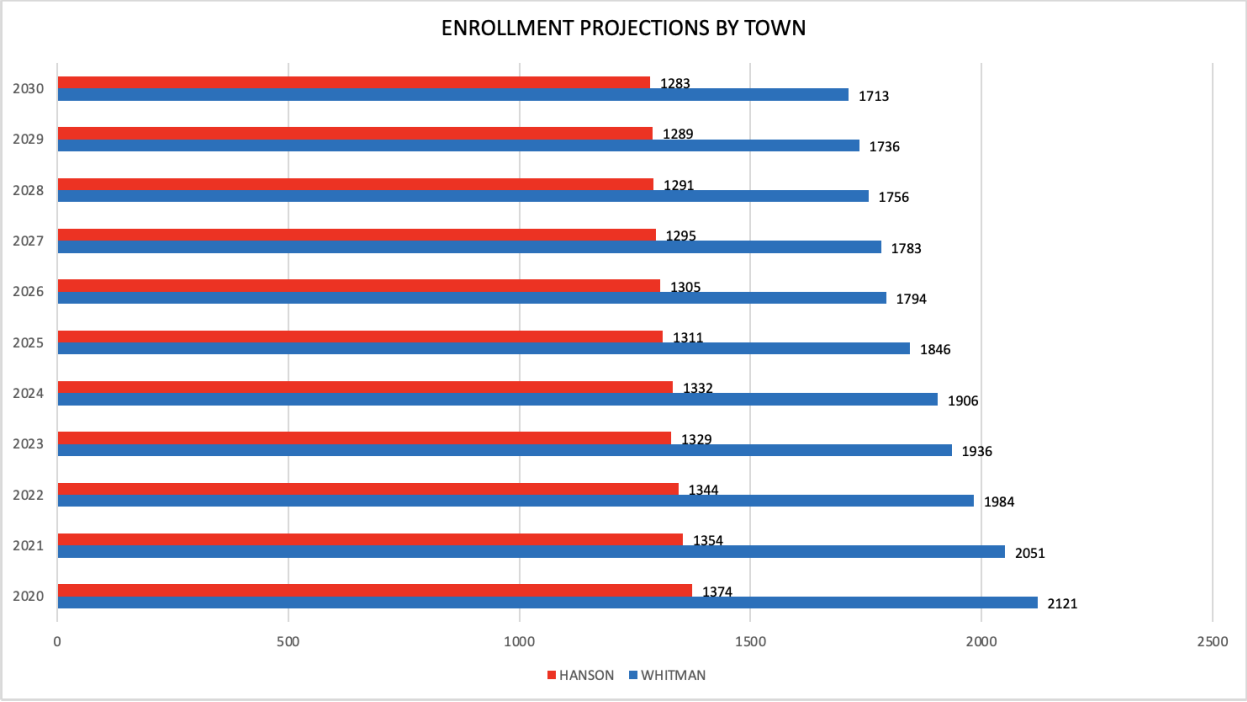
Fiscal Year	Hanson	Whitman	Hanson % Incr/ Decr	FY15 to FY21 % Incr/ Decr Hanson only
2015	$6,764,003	$8,514,467		
2016	$7,150,999	$8,996,371	5.72%	
2017	$7,525,809	$9,249,015	5.24%	
2018	$7,869,932	$9,757,454	4.57%	
2019	$8,341,004	$10,126,193	5.99%	
2020	$8,892,401	$10,631,538	6.61%	
2021	$9,335,424	$11,019,930	4.98%	38.02%

Source: Massachusetts Department of Elementary and Secondary Education.

Enrollment Projections

In addition to the historical enrollment data provided by NESDEC, projections for the period 2020-2030 were calculated. As is the case with the historical data, projections into the future also show declining enrollment for both towns. Figure 7 shows the projected enrollments for Whitman and Hanson.

Figure 7. Projected enrollment for Hanson and Whitman, 2020-2030.

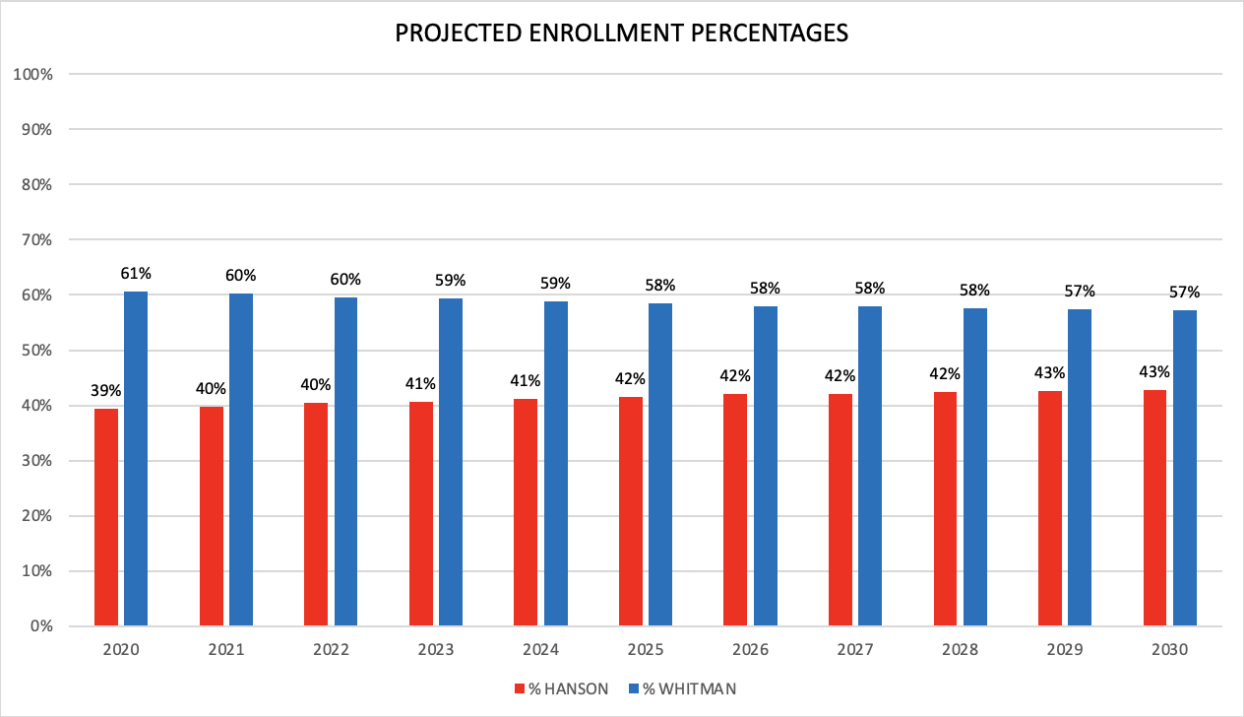


Source: NESDEC Enrollment Projection Reports for Hanson and Whitman, 2021.

What is notable about the enrollment forecast is that Whitman's projected enrollment is predicted to decline at a faster rate than Hanson. Over the past 10 years, Hanson's percentage of students enrolled compared to Whitman's decreased by 5%. The predicted enrollment

reverses that percentage of students. Hanson's enrollment is projected to increase by four percentage points to the whole, as shown in Figure 8.

Figure 8. Projected percentages of Hanson and Whitman students, 2020-2030.



Source: NESDEC Enrollment Projection Reports for Hanson and Whitman, 2021.

If these projections come to fruition, the district will face dwindling resources to educate its students. Furthermore, based on the most recent amendment to the regional agreement, the Town of Hanson will see an increase in its proportionate share of the costs.

Salaries and Benefits

Salaries

The largest portion of a district's operating budget is staff salaries and benefits. Were Hanson to become a standalone school district, it would be responsible for the costs of staff salaries and benefits at the schools it maintains as well as a portion of the shared costs for central office and the regional high school if they chose to share services. Currently, Indian Head Elementary has a staff count of 66 personnel, while Hanson Middle School has 67. In the FY21 operating budget, staff expenses for Indian Head Elementary and Hanson Middle School were over $6.7m. This figure is subject to regular increases based on collective bargaining agreements and column moves per the contract, so the Town can expect these costs to continue to increase from year

to year. While retirements or departures can lead to reductions in staff costs if a replacement is hired at a lower step or column, in general this savings is offset by the increases incurred by other staff.

As a general rule, depending on the cost-of-living adjustments negotiated in collective bargaining agreements, school districts can expect a range of approximately 4-5% increases in salaries from year to year. This is due to staff moving up steps on their salary scales and for professional staff who change salary lanes due to attainment of post-graduate degrees and additional credits beyond. In Massachusetts, all educators must attain at least a Master's degree within their first five years in the profession in order to maintain their professional licenses.

Of note in Hanson is that a significant percentage of its teaching staff are placed on the Master's salary column or higher, indicating that most teachers have their Master's degree, and many have received additional degree credits beyond the Master's level. This means that a large percentage of teachers, who make up the bulk of building staff, are at the higher end of potential salary earnings. Figure 9 below illustrates the breakdown of teachers at Indian Head Elementary by column. Figure 10 shows the same data at Hanson Middle School, where the same trend can be observed. As the charts show, only 5 teachers at both schools are below a Master's degree. Large numbers of faculty with higher academic qualifications contribute to higher costs for teacher salaries. Also of note is that the largest number of teachers in both schools are at the Master's level, leaving room for growth not only on steps but movement to higher columns at milestones of 15, 30, and 45 credits beyond their Master's degree, and obtaining a second Master's degree or a Certificate of Advanced Graduate Study from an institution of higher education.

Figure 9. Teacher Column Placements at Indian Head Elementary School.

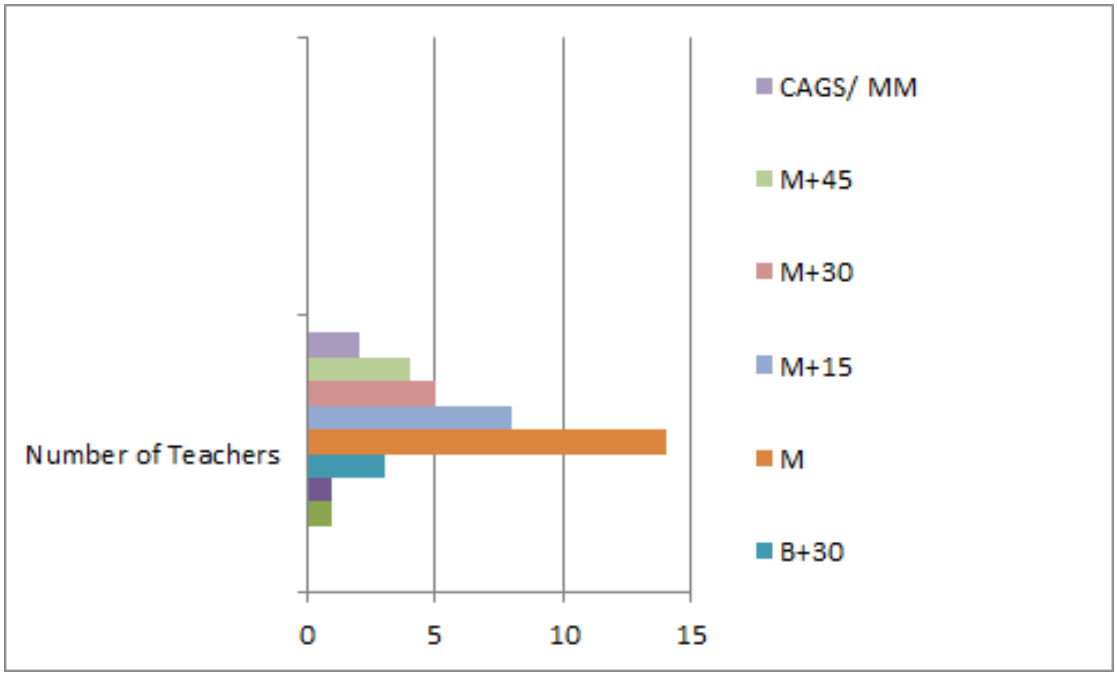
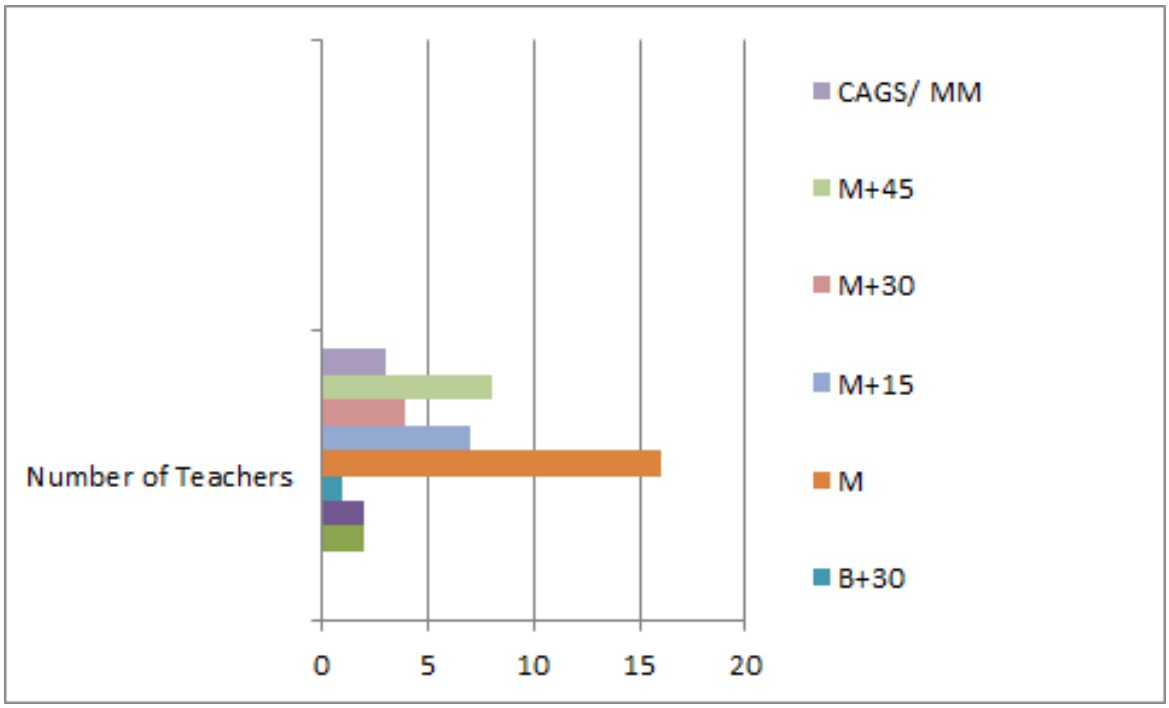


Figure 10. Teacher Column Placements at Hanson Middle School.



Regarding paraprofessional salaries, the Unit D collective bargaining agreement determines compensation based on years of service, where staff advance up the salary lane after fixed periods of service within the district. In FY21, for their first year through the completion of their

third year, instructional paraprofessionals receive $17.59 an hour. After the third year they move to $17.86 an hour and continue in that manner until completing their eighth year in the district, when they max out. Even then, collective bargaining agreements determine a percentage increase from year to year, so employees at the top step will still see an increase in salary each year. Hanson currently has 21 paraprofessionals at Indian Head Elementary and another 16 at Hanson Middle School, most of whom are not yet at the top step. The Town can expect paraprofessional salaries to increase at a rate of 4-5% each year as COLAs take effect and staff continue to advance up the salary schedule as they accrue years of service. As the minimum wage continues to rise in Massachusetts, the district will need to keep these hourly rates in mind to remain competitive in the labor market.

Figures 11 to 14 show the breakdown of paraprofessionals in each building, and where they fall on the salary schedule.

Figure 11. Instructional Paraprofessionals at Indian Head Elementary School.

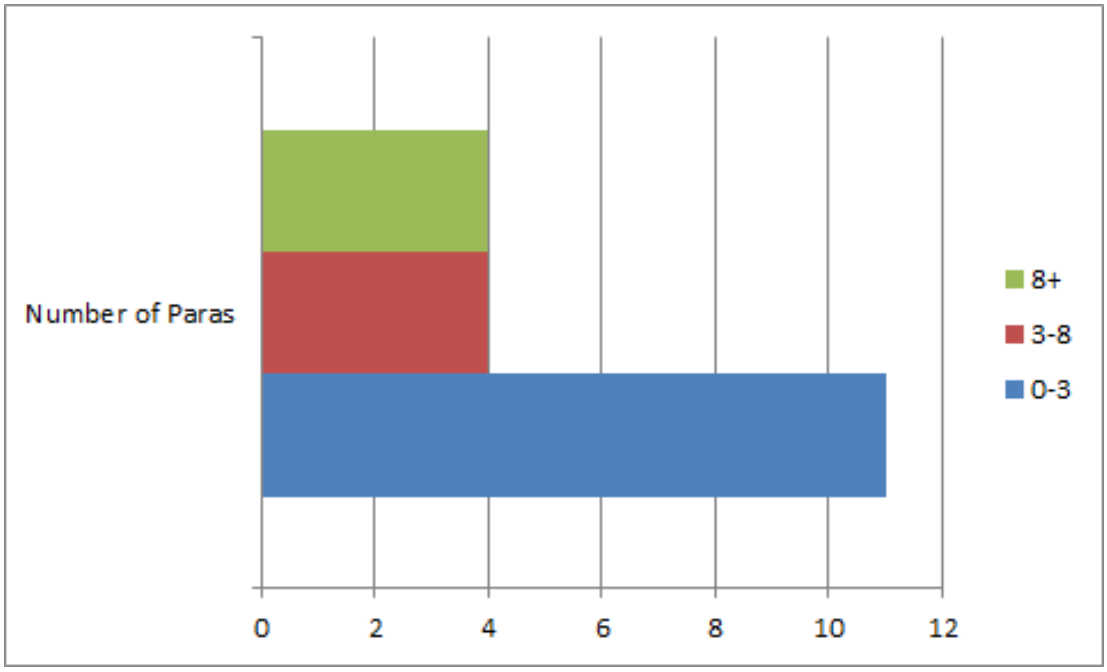


Figure 12. Non-instructional Paraprofessionals at Indian Head Elementary.

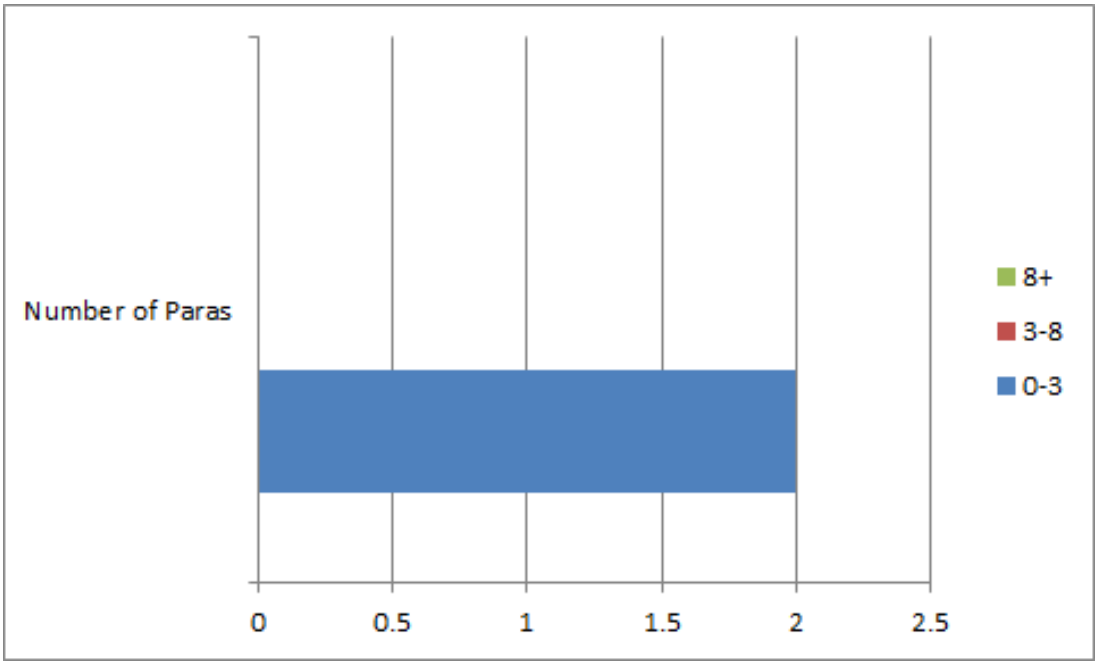


Figure 13. Instructional Paraprofessionals at Hanson Middle School.

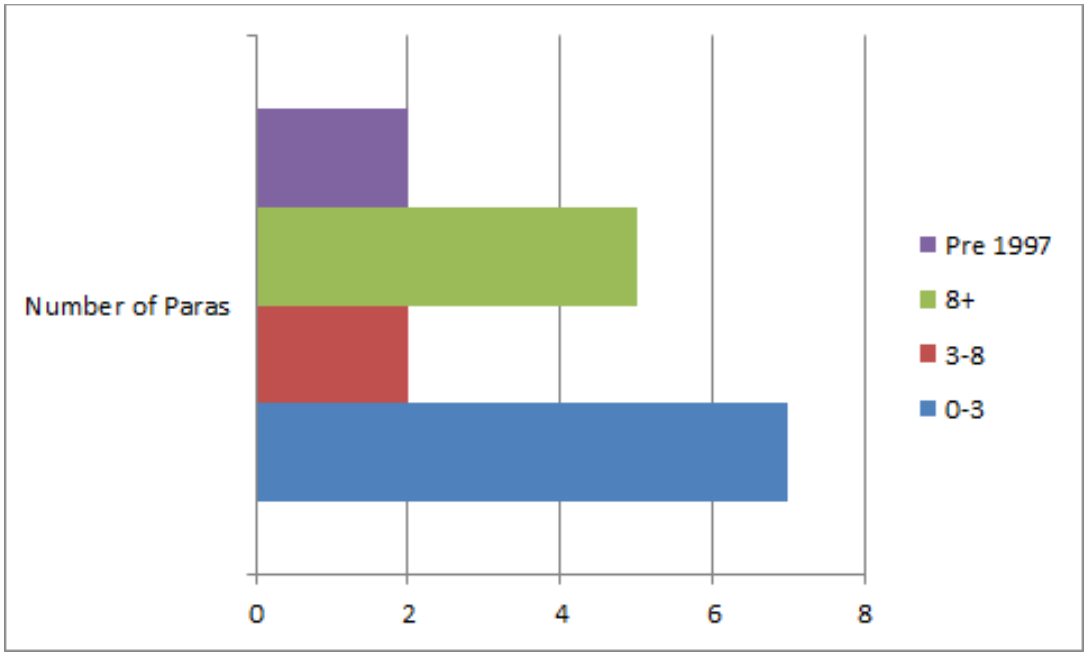
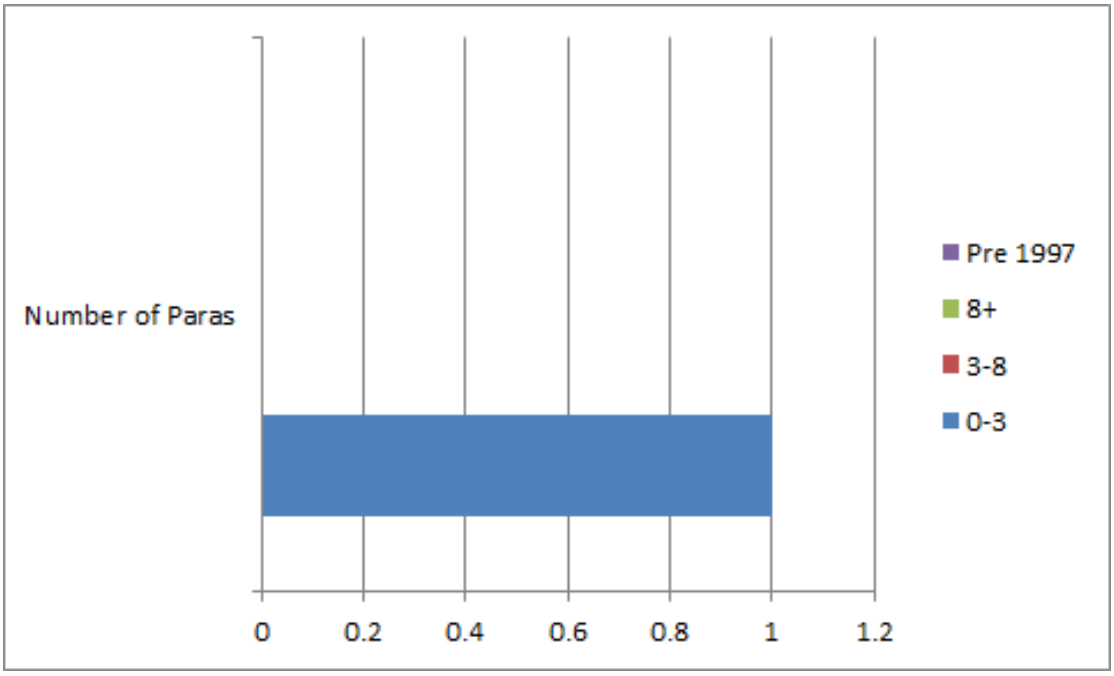


Figure 14. Non-instructional Paraprofessionals at Hanson Middle School.



Custodians typically comprise another proportion of a district's regular staff, but currently the Whitman-Hanson RSD contracts their custodial services, as mentioned under the facilities section of this report. As outlined in the facilities analysis, there are three potential options from which Hanson could choose regarding custodial services, one of which would be hiring its own custodial staff. None of these options would preclude the necessity of shared services at the high school and district level should the districts decide to pursue a school union. This avenue would entail sharing the costs of custodial services at the high school (either as regular staff or contracted services) and district (maintaining central office and the facility director's compensation). Were the Town of Hanson to hire their own custodians, the Town would be obligated to provide insurance and benefits in addition to salaries to full-time employees.

Benefits

As referenced above, the Town is responsible for a proportion of employee insurance rates, currently standing at 60% of the premiums for health and dental insurance up to $20,000. Life insurance is split 50-50 between the employee and the district, while the employee carries the entirety of the costs of vision. Appendix C contains an overview of the insurance plans currently offered to eligible employees.

All employees who work over 20 hours a week are eligible for insurance through the district, so this figure represents a significant proportion of staff related expenses. Insurance premiums are

determined largely by the pool of individuals participating in the insurance plan, which makes determining the insurance costs of a standalone school district more complicated than calculating salary obligations. Were the Town of Hanson to pursue full de-regionalization, its employees would join a new insurance pool, likely with other employees of the Town. If, however, a union of some form between the Town of Hanson and the Town of Whitman continued, the employees of both towns' schools and the regional district would remain in the same insurance pool. This would largely maintain the current costs of insurance to the district, whereas full de-regionalization could potentially increase the costs by changing the composition of the insurance pool.

Another cost consideration for the Town of Hanson is in its Other Post-Employment Benefits (OPEB). These are benefits due retirees beyond their pensions and can include life insurance, health insurance, and deferred compensation. The Town of Hanson would have liability in this area, the extent of which is currently unknown. An actuarial study would be required to reveal the potential liability to Hanson if a decision were made to separate from the district in whole or in part.

Transportation

As a fully regionalized school district, WHRSD enjoys the benefit of M.G.L. c. 71, §16C transportation reimbursement. This reimbursement is determined by the number of students who ride 1.5 miles or more from home to their school of attendance. This number fluctuates annually based on state appropriations for this purpose and the number of students who meet the 1.5-mile threshold for reimbursement. Table 13 shows the transportation budget and amount of the regional transportation reimbursement for the FY19-FY22 period. The percentages reflect the reimbursement to the entire transportation budget, which is determined by the ridership census.

Table 13. Transportation budgets and reimbursements, FY19-FY22.

FISCAL YEAR	TRANSPORTATION BUDGET	C. 71 REIMBURSEMENT	% REIMBURSEMENT
FY19	$1,708,861	$823,284	48.18%
FY20	$1,220,120	$888,213	72.80%
FY21	$1,708,861	$863,834	50.55%
FY22	$1,715,000	$697,269	40.66%

Should Hanson decide to fully withdraw from the district, both Whitman and Hanson would lose this reimbursement altogether. Should Hanson choose to withdraw from Whitman for grades PK-8, both towns would lose their reimbursements for transportation for those grade levels but would continue to receive reimbursement for high school students in accordance with the statute.

PROCEDURAL CONSIDERATIONS

Hanson has several options it can consider:

1. Withdraw totally from the regional district and become a standalone district PK-12.
2. Withdraw from the regional district for grades PK-8.
3. Remain with the Whitman-Hanson Regional School District as currently configured.

Option 1: Withdraw totally from the regional district and become a standalone district PK-12.

While it is TMS's overall position to not make specific recommendations, this is an option we do not believe is feasible for either town. The current Whitman-Hanson Regional High School facility is less than 20 years old and is situated on the town line between the two communities, mostly in the town of Hanson. There is still outstanding debt from the construction, which will not be paid off until 2027.

For the two towns to fully separate, there will need to be a need to determine which town would continue to use the current high school and which town would need to build a new high school, as there are no additional facilities currently available to house a separate grades 9-12 student population. Per the regional agreement, this would also necessitate a sharing of the debt associated with the building as well as any other shared debt at the time of separation. This would not be financially feasible for either community.

Other items that would be negatively impacted for both towns by this decision include the following:

- Loss of transportation reimbursement for both towns, adding to the expense side for a large portion of the budget.
- The need to add additional staff to support programming for all students in 2 independent districts, as well as their benefits.
- The potential loss of programming at the secondary level: academics, athletics, and extra-curricular activities would all be significantly impacted.
- Potential replication of programs for students with special needs, English Learners, and students who receive services because of identification through section 504 of the

Rehabilitation Act. This would result in a loss of efficiencies and increased costs for both towns.

- The technology network would either need to be shared in some form or Hanson would have to install a separate network.
- The need to staff its own central office would be necessary. Table 14 shows current costs for administrative salaries for WHRSD.
- Costs for a separate central office space would also need to be factored in. This would include the space itself, as well as all furnishings, fixtures, and equipment to allow the staff to do their work.

Table 14. FY22 Central Office Salaries.

FY 22 BUDGET LINE	AMOUNT
SUPERINTENDENT SALARY	$177,190.00
SUPERINTENDENT CLERICAL	$101,138.00
DISTRICT PROFESSIONAL SALARIES	$280,000.00
ASST. SUPERINTENDENT SALARY	$152,173.00
ASST. SUPERINTENDENT CLERICAL	$67,535.00
BUSINESS/FINANCE SALARY	$175,000.00
BUSINESS/FINANCE CLERICAL*	$226,067.00
TECHNOLOGY INFO. MGT. SALARIES**	$202,452.66
TOTAL	$1,381,555.66

* These salaries include payroll, accounts payable, accounts receivable, bookkeeping, and other associated clerical positions required to ensure proper segregation of duties and internal controls.

**These salaries include a technology director position as well as network support personnel.

Option 2: Withdraw from the region for students in grades PK-8

In this option, one of two scenarios could occur. First would be to become an entirely separate district. This would require the establishment of a separate School Committee and a need to hire separate Superintendent of Schools and other key central office positions, at a cost like that outlined in Table 14.

The advantages of this scenario would be:

- Hanson takes total control of and responsibility for educating its students in these grade levels.
- Hanson has the school facilities to house its K-8 students.

The challenges of this scenario would be:

- Hanson would need to find space and make appropriate provisions for housing its own preschool program or enter into a tuition agreement with Whitman or another neighboring community.
- Hanson would need to add to its special education programs, enter into a tuition agreement with Whitman, or place high needs students in out-of-district placements over sharing what is currently in place. These options would most likely cause the towns to incur additional costs in tuition or in personnel. The ability to house separate programs within the current buildings would also need to be assessed.
- Hanson would need to negotiate new contracts with all collective bargaining units. Current law and regulations stipulate that teachers cannot be monetarily penalized as a result of a change in regional status.
- Hanson would also need to make provision for the education of its high school students. This would involve a tuition agreement with Whitman or another neighboring community.
- Both towns would lose regional transportation reimbursement for their K-8 students.
- Hanson would need to implement its own separate student information system, budget/accounting system, and other platforms used by the region to manage the educational, data, and financial requirements of public schools in the Commonwealth of Massachusetts.
- Hanson would still need to establish and fund all central office operations for a separate K-8 district.

The second scenario would be to establish an independent PK-8 school district within the current administrative structure used for the regional school district. The advantages and challenges of this scenario would be the same as they are under a separate entity, apart from establishing an entirely separate central office. This arrangement, known as a school union, would enable Hanson to share the same central office services and staff as Whitman, allow for the continued sharing of key platforms to manage student, staff, and financial data, and would require a new regional agreement at the high school level, with students from both towns remaining at WHRHS and for the two towns to share the costs of educating those students, using the statutory method in place for shared expenses. This arrangement would eliminate

most of the additional costs outlined other options above. However, this would mean the loss of c. 71 regional transportation reimbursement for both Hanson and Whitman at the K-8 level.

Option 3: Remain with the Whitman-Hanson Regional School District as currently configured

Advantages:

- A considerable amount of time, effort, and expense required to separate would be saved, as noted in the options above.
- Strong educational, special needs, athletics, and extra-curricular programming would remain intact for the students in both towns at all levels.
- Current regional transportation aid would remain in place.

Challenges:

- Hanson would not gain total control over the education of its students.
- Hanson's overall share of the expenses would continue at higher levels than prior to the most recent regional agreement amendment.

LEGAL CONSIDERATIONS

In examining the process for Hanson to withdraw from the Whitman-Hanson Regional School District, the Whitman-Hanson Regional School District Agreement and relevant Massachusetts Department of Elementary and Secondary Education (DESE) regulations (600 CMR 41.00, specifically sections 41.02 and 41.03) were examined and noted above in the document review section.

The DESE plays a role in the establishment and changes in any regional school district, as defined in regulations 600 CMR 41.00. Section 41.02 refers to the convening of a Regional Needs Conference by the DESE at the request of the Regional School Committee. Specifically, this section references the establishment or expansion of a regional district. It is silent regarding withdrawal.

However, 600 CMR 41.03 does address the issue of withdrawal from a regional district. It requires that any withdrawal from the district shall take effect as of July 1 of the fiscal year in which the withdrawal is requested and that the amended agreement, as approved by both municipalities, be approved by the Commissioner of Education by December 31 of the prior year. These timelines are also spelled out in the Agreement, consistent with this section of the regulations. After contacting the DESE, a Long-Range Educational Plan would be required prior to making a request for approval of a new configuration to the Commissioner. Any effort on the

part of Hanson to separate in any way from Whitman would require votes by both towns and approval by the Commissioner of Education after review of the submission of a Long-Range Educational Plan that would be required by the Town of Hanson. This plan would require the town to demonstrate its ability to sustain itself both educationally and financially, moving forward.

There are several questions that will need to be answered by a Long-Range Educational Plan. There are many questions for Hanson to consider including, but not limited to, the following:

- Does Hanson have the appropriate spaces to educate its students in the desired configuration? Of particular concern would be the need for space for a preschool program and additional special education programs.
- Depending on the desired configuration, would it make educational and fiscal sense to offer the necessary programming for all students to be successful? Would a stand-alone district have the capacity to offer special education services without incurring out-of-district tuition and additional transportation costs?
- Would the Town of Hanson have the ability to financially sustain a separate school district, using one of the options outlined above?
- Is there a will on the part of the citizens of both towns to separate in some way? As part of the decision-making process, both towns would need to seek input from all stakeholders: families, students, staff, and the broader community. Will the perceived benefits outweigh the perceived losses?

In the context of the above considerations, it would not seem feasible to withdraw in time for the start of FY2023 or FY2024. Most likely, Hanson would be looking at withdrawal for FY2025 at the earliest. If this is the case, there may be some unintended consequences in terms of their relationship with the regional district, both politically and educationally, that must be considered. It is highly likely current tensions that have precipitated this study would only increase, which could prove to be an unhealthy distraction from the core mission of the district to provide high quality education for its students.

To pursue de-regionalization, all constituent towns of the regional district must approve of any changes, meaning both the Town of Whitman and the Town of Hanson would have to agree to de-regionalize to operate as standalone school districts or some form of school union sharing certain services.

ADMINISTRATIVE CONSIDERATIONS

Based on a review of the SY20-21 WHRSD Flow Chart found on the district's website, (https://whrsd.org/district_information/district_documents/essential_information), TMS conducted an analysis of administrative considerations regarding potential de-regionalization. Currently, Whitman and Hanson share administrative staff, including the Superintendent, Assistant Superintendent, and the technology, business services, safety/security, student services, human resources, and curriculum offices. The business office in turn oversees accounts payable, payroll, accounting, facilities, and food service, while student services include pre-school, ELL, special education, homeless services, and nursing. Building principals and assistant principals fall under the Superintendent for evaluation purposes.

If the Town of Hanson were to pursue full de-regionalization, the principals of Indian Head Elementary and Hanson Middle School would continue to work under a standalone Hanson School District. The Town of Hanson would need to staff and provide resources for its central office, as noted above. A standalone district would also need to replicate the services currently provided by the regional school district, including safety/security, business and student services, technology, and human resources. The new district would have to hire other administrators as needed to oversee these various departments, which would entail additional costs to employ a business manager, food service director, facilities director, technology director, and other positions to be determined by the district's needs.

An alternative would be for the Town of Hanson to pursue a school union agreement with the Town of Whitman, in which Hanson and Whitman would both fund and operate its own elementary and middle schools and would split the costs for shared high school and administrative services. Sharing administrative services reduces the costs to each district by eliminating the need for each to hire its own superintendent and other administrative staff. Under this arrangement, a formula would determine how the towns would divide the costs of shared services and personnel.

Another administrative consideration would be the role of the School Committee. Currently, the WHRSD is overseen by a single school committee. Full de-regionalization would mean that the Town of Hanson would elect its own School Committee to oversee the Hanson School District and hire the Superintendent. Were the Town of Hanson to pursue a school union in which Hanson operates its own elementary and middle schools, both Hanson and Whitman would elect their own School Committees to supervise their elementary and middle schools, and a Regional School Committee with elected members from both towns would oversee the high school and shared administrative services. The details of the latter arrangement would be

determined by a revision of the regional agreement between the Towns of Whitman and Hanson should they elect to pursue this course of action.

CONCLUSION

As this report illuminates, the process of school governance is extremely complex with several different layers: educational, financial, and political. Each of these layers are the backdrop for the public-facing process of educating students for success in college, career, and life. The central question before the Towns of Whitman and Hanson is whether to remain linked as a single regional district or to separate in some way and which configuration will best serve the needs of their students. This question will require additional input from both communities, should Hanson decide to de-regionalizing from Whitman in whole or in part. The decision on the part of the Town of Hanson will have an impact on the education of the students from Whitman and both towns will need to assess what is the best path, moving forward.

These decisions should not be taken without considering the advantages and challenges of each and cannot move forward without first engaging all stakeholders in this process. Staff, student, and community surveys and conversations would be an essential part of this process.

TMSolution, Inc. is grateful for the opportunity to work through the information provided to complete this report. We are particularly grateful to the administration of the Whitman-Hanson Regional School District for supplying us with the documentation needed to conduct this study and for hosting our visit to the facilities in Hanson.

Respectfully submitted,

Judith Houle, Ed.D., SFO
Senior Vice President and Chief Education Officer

Michael DeBarge, BA, MSc,
Finance Research Associate

TMSolution, Inc.

Appendix A

Enrollment Studies
Hanson
Whitman-Hanson Regional

Prepared by the New England School Development Council

New England School Development Council

Hanson, MA

2020 - 2021 Enrollment Projection Report

Hanson, MA Historical Enrollment

School District: Hanson, MA

3/4/2021

Historical Enrollment By Grade

Birth Year	Births	School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
2005	117	**2010-11**	53	137	141	128	144	146	164	158	167	158	139	142	136	135	0	1895	1948
2006	92	**2011-12**	43	110	132	139	144	146	164	162	162	171	139	142	136	135	0	1882	1925
2007	93	**2012-13**	46	104	111	132	137	130	144	150	164	158	137	129	144	145	0	1785	1831
2008	101	**2013-14**	56	92	110	112	128	134	130	143	145	162	135	139	131	142	0	1703	1759
2009	102	**2014-15**	56	96	101	105	120	129	132	128	144	151	137	134	139	131	0	1647	1703
2010	105	**2015-16**	56	103	108	106	102	126	134	136	128	138	132	134	135	147	0	1629	1685
2011	87	**2016-17**	65	98	109	105	99	106	132	133	130	128	117	126	128	142	0	1553	1618
2012	85	**2017-18**	61	100	105	108	107	105	108	124	128	131	109	119	124	138	0	1506	1567
2013	100	**2018-19**	57	98	102	102	106	113	105	112	124	130	116	114	119	135	0	1476	1533
2014	80	**2019-20**	57	92	98	106	106	106	116	106	113	125	114	118	110	132	0	1442	1499
2015	98	**2020-21**	28	82	97	96	105	104	106	116	113	116	96	111	116	116	0	1374	1402

Historical Enrollment in Grade Combinations

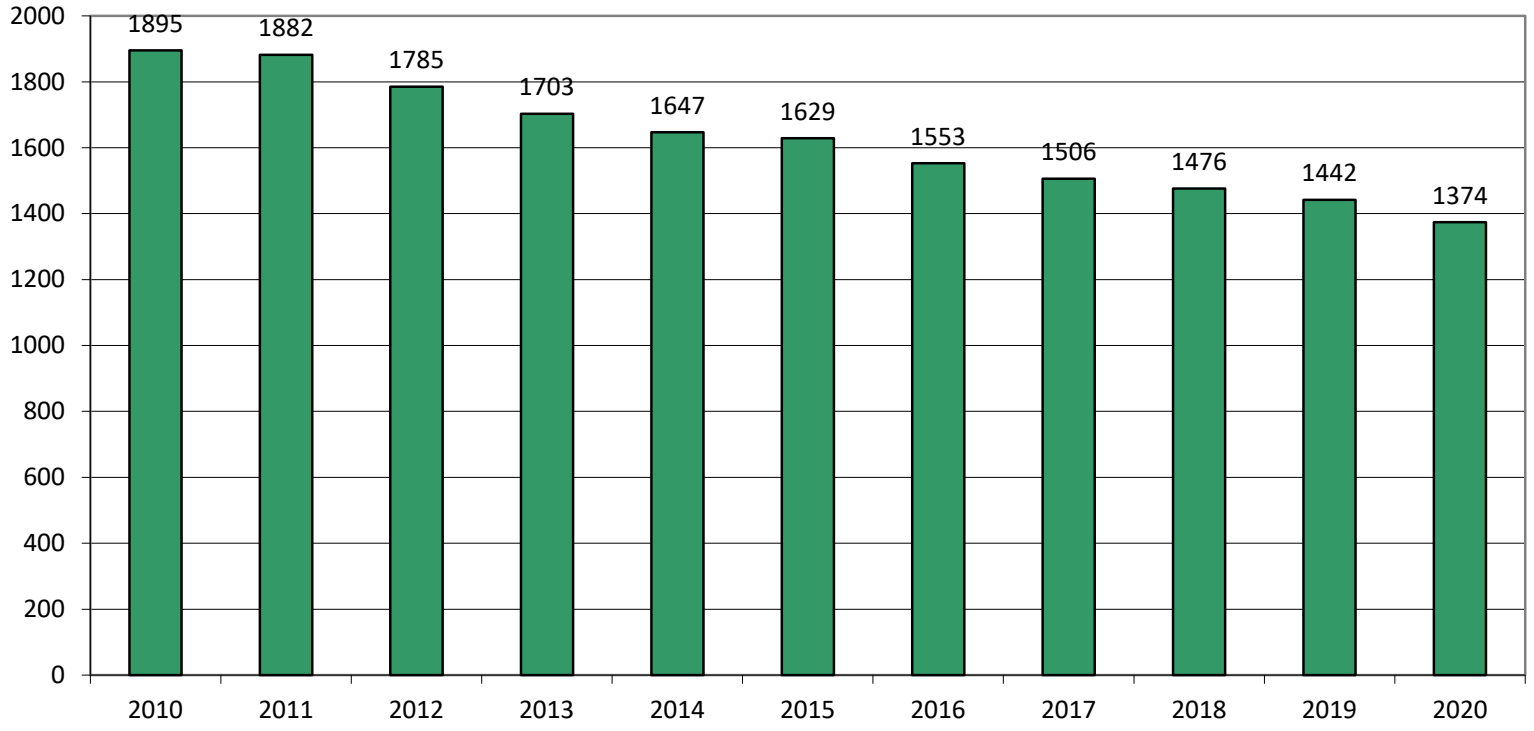
Year	K-2	PK-2	3-5	K-5	K-8	6-8	PK-5	7-12	9-12
2010-11	406	459	454	860	647	483	913	877	552
2011-12	381	424	454	835	659	495	878	885	552
2012-13	347	393	411	758	616	472	804	877	555
2013-14	314	370	392	706	580	450	762	854	547
2014-15	302	358	381	683	555	423	739	836	541
2015-16	317	373	362	679	536	402	735	814	548
2016-17	312	377	337	649	523	391	714	771	513
2017-18	313	374	320	633	491	383	694	749	490
2018-19	302	359	324	626	471	366	683	738	484
2019-20	296	353	328	624	460	344	681	712	474
2020-21	275	303	315	590	451	345	618	668	439

Historical Percentage Changes

Year	K-12	Diff.	%
2010-11	1895	0	0.0%
2011-12	1882	-13	-0.7%
2012-13	1785	-97	-5.2%
2013-14	1703	-82	-4.6%
2014-15	1647	-56	-3.3%
2015-16	1629	-18	-1.1%
2016-17	1553	-76	-4.7%
2017-18	1506	-47	-3.0%
2018-19	1476	-30	-2.0%
2019-20	1442	-34	-2.3%
2020-21	1374	-68	-4.7%
Change		**-521**	**-27.5%**

Hanson, MA Historical Enrollment

K-12, 2010-2020



Hanson, MA Projected Enrollment

School District: Hanson, MA **3/4/2021**

Enrollment Projections By Grade*

Birth Year	Births		School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
2015	98		2020-21	28	82	97	96	105	104	106	116	113	116	96	111	116	116	0	1374	1402
2016	87		2021-22	57	90	84	97	97	107	105	107	118	115	101	98	109	126	0	1354	1411
2017	107		2022-23	58	111	92	84	98	99	108	106	109	120	100	103	96	118	0	1344	1402
2018	95	(prov.)	2023-24	59	99	114	92	85	100	100	109	108	111	104	102	101	104	0	1329	1388
2019	97	(prov.)	2024-25	60	101	101	114	93	87	101	101	111	110	97	106	100	110	0	1332	1392
2020	80	(prov.)	2025-26	61	83	104	101	115	95	88	102	103	113	96	99	104	108	0	1311	1372
2021	93	(est.)	2026-27	62	97	85	104	102	117	96	89	104	105	98	98	97	113	0	1305	1367
2022	94	(est.)	2027-28	63	98	99	85	105	104	118	97	91	106	91	100	96	105	0	1295	1358
2023	92	(est.)	2028-29	64	96	100	99	86	107	105	119	99	93	92	93	98	104	0	1291	1355
2024	91	(est.)	2029-30	65	95	98	100	100	88	108	106	121	101	81	94	91	106	0	1289	1354
2025	90	(est.)	2030-31	66	94	97	98	101	102	89	109	108	123	88	83	92	99	0	1283	1349

Note: Ungraded students (UNGR) often are high school students whose anticipated years of graduation are unknown, or students with special needs - UNGR not included in Grade Combinations for 7-12, 9-12, etc.

Based on an estimate of births | Based on children already born | Based on students already enrolled

Projected Enrollment in Grade Combinations*

Year	K-2	PK-2	3-5	K-5	K-8	6-8	PK-5	7-12	9-12
2020-21	275	303	315	590	451	345	618	668	439
2021-22	271	328	309	580	445	340	637	667	434
2022-23	287	345	305	592	443	335	650	646	417
2023-24	305	364	285	590	428	328	649	630	411
2024-25	316	376	281	597	423	322	657	634	413
2025-26	288	349	298	586	406	318	647	623	407
2026-27	286	348	315	601	394	298	663	615	406
2027-28	282	345	327	609	412	294	672	589	392
2028-29	295	359	298	593	416	311	657	579	387
2029-30	293	358	296	589	436	328	654	594	372
2030-31	289	355	292	581	429	340	647	593	362

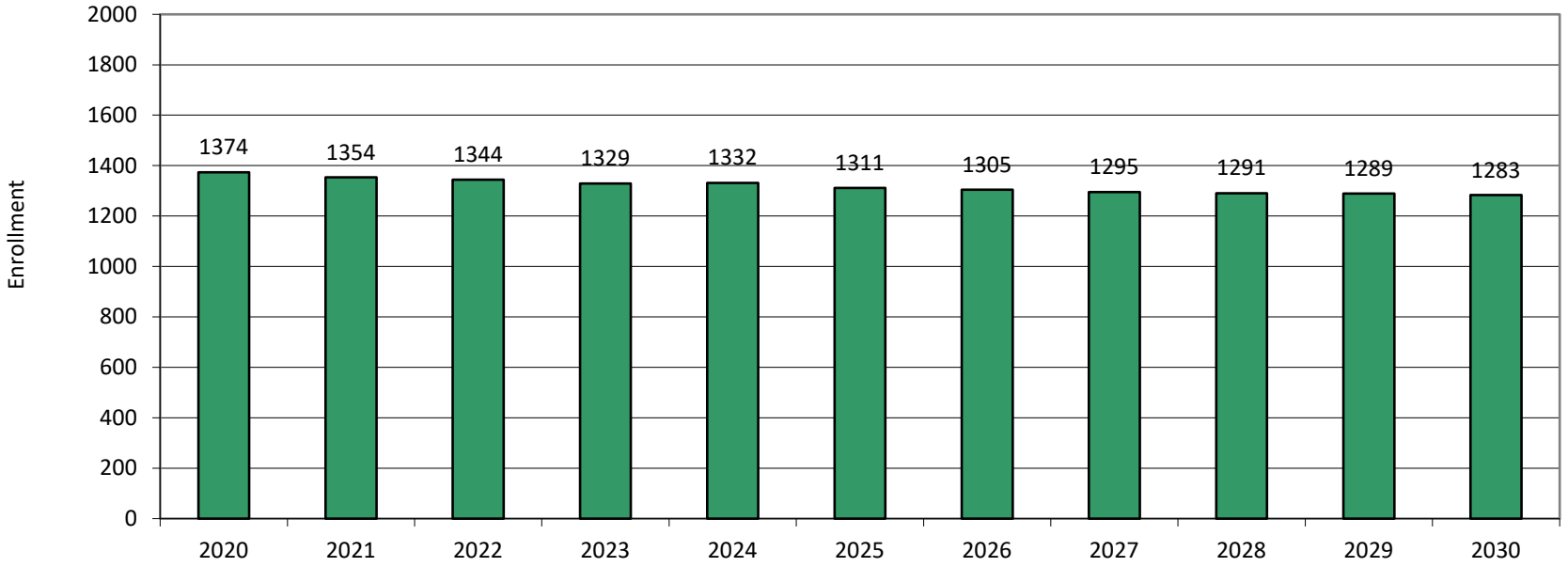
Projected Percentage Changes

Year	K-12	Diff.	%
2020-21	1374	0	0.0%
2021-22	1354	-20	-1.5%
2022-23	1344	-10	-0.7%
2023-24	1329	-15	-1.1%
2024-25	1332	3	0.2%
2025-26	1311	-21	-1.6%
2026-27	1305	-6	-0.5%
2027-28	1295	-10	-0.8%
2028-29	1291	-4	-0.3%
2029-30	1289	-2	-0.2%
2030-31	1283	-6	-0.5%
Change		-91	-6.6%

*Projections should be updated annually to reflect changes in in/out-migration of families, real estate sales, residential construction, births, and similar factors.

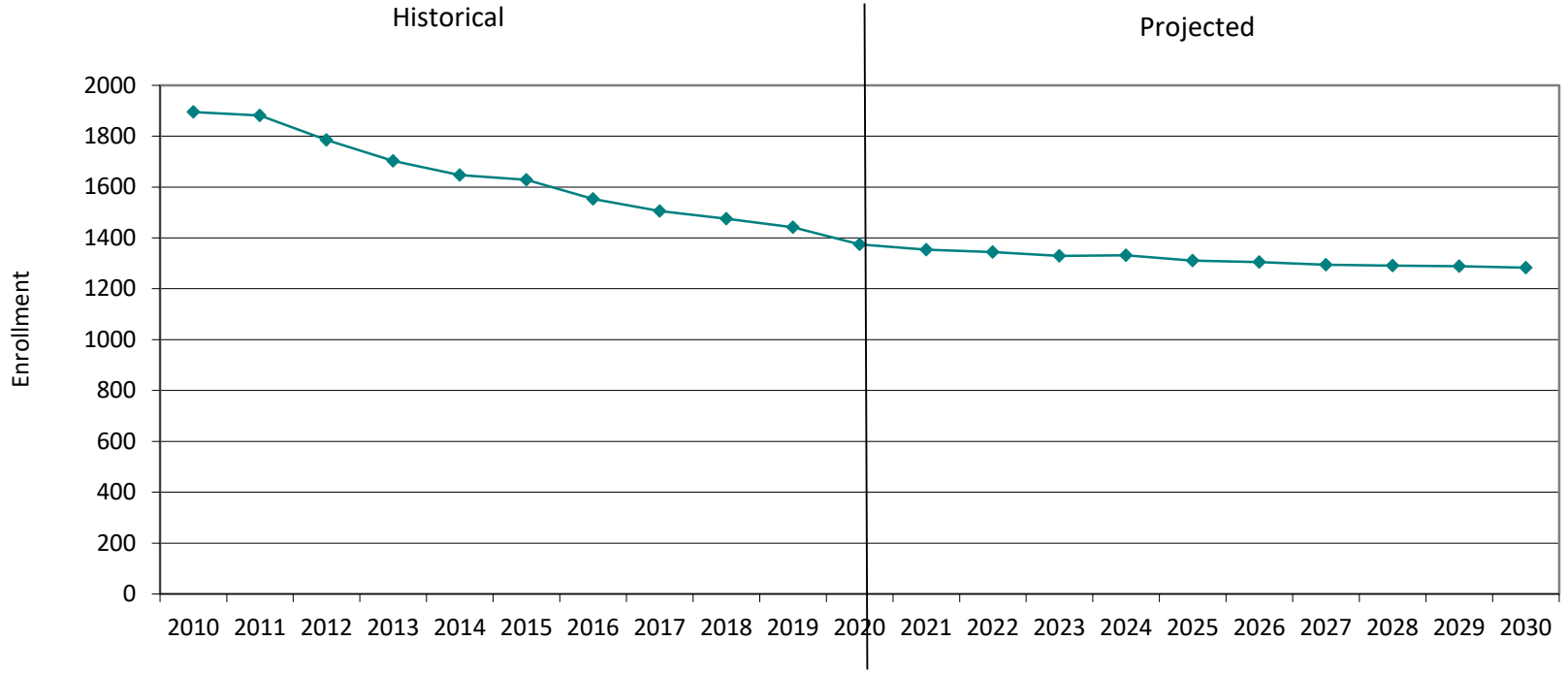
Hanson, MA Projected Enrollment

K-12 To 2030 Based On Data Through School Year 2019-20

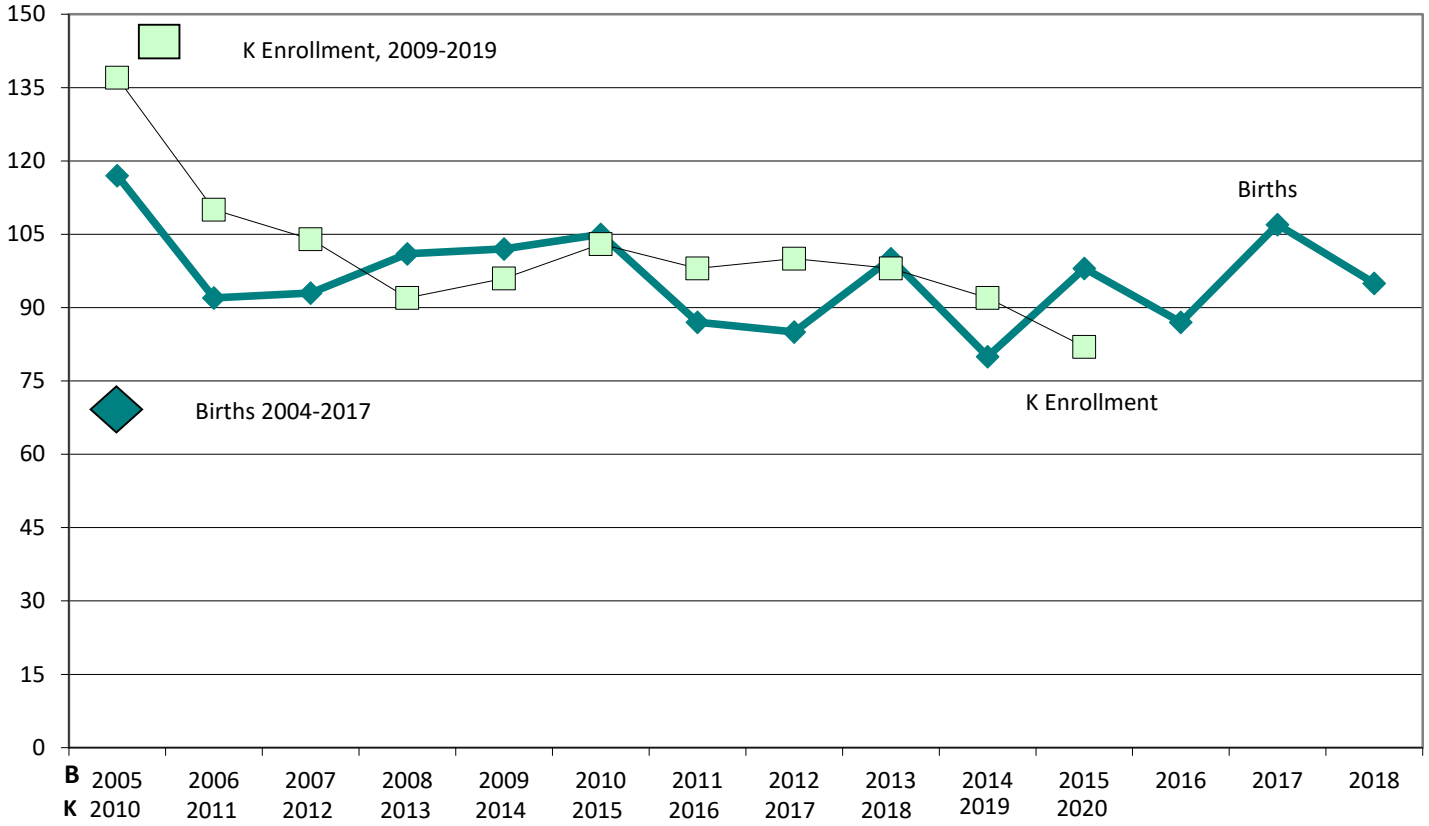


Hanson, MA Historical & Projected Enrollment

K-12, 2010-2030



Hanson, MA Birth-to-Kindergarten Relationship



Hanson, MA Additional Data

Building Permits Issued		
Year	Single-Family	Multi-Units
2005	58	0
2016	7	10
2017	6	33
2018	7	6
2019	5	8
2020	11 to date	6 to date

Source: HUD and Building Department

Enrollment History		
Year	Career-Tech 9-12 Total	Non-Public K-12 Total
2005-06	n/a	n/a
2016	75	66
2017	75	66
2018	68	56
2019	83	51
2020	83	29

Residents in Non-Public Independent and Parochial Schools (General Education)														
Enrollments as of Oct. 1	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12 TOTAL
	1	0	2	0	0	0	0	2	1	5	5	6	7	29

K-12 Home-Schooled Students	
2020	53

K-12 Residents in Charter or Magnet Schools, or "Choiced-out"	
2020	24

K-12 Special Education Outplaced Students	
2020	10

K-12 Tuitioned-In, Choiced-In, & Other Non-Residents	
2020	45

The above data were used to assist in the preparation of the enrollment projections. If additional demographic work is needed, please contact our office.

New England's PK-12 Enrollments
The "Big Picture"

From 2016 to 2028, the US Department of Education anticipates changes in PK-12 enrollment of +5.4% in the South; +2.1% in the West, -2.1% in the Midwest; and -3.7% in the Northeast.

State	Fall 2016 PK - 12	Fall 2028 Projected	PK-12 Decline	% Change, 2016-2028
CT	535,118	471,100	-64,018	-12.0%
ME	180,512	171,600	-8,912	-5.0%
MA	964,514	939,400	-25,114	-2.6%
NH	180,888	161,000	-19,888	-11.0%
RI	142,150	135,700	-6,450	-4.5%
VT	88,428	80,400	-8,028	-9.0%

Source: USDE, National Center for Education Statistics, *Projections of Education Statistics to 2028* , Table 3, Pages 35-36; Published May 28, 2020.

Although most New England Districts are seeing a decline in the number of births, NESDEC's experience indicates that the impact on enrollment varies from District to District. Almost half of New England Districts have been growing in PK-12 enrollment, and a similar number are declining (often in rural areas) with the other Districts remaining stable.

New England School Development Council

Whitman-Hanson RSD
Hanson, MA

2020 - 2021 Enrollment Projection Report

Whitman-Hanson RSD, MA Historical Enrollment

School District: **Whitman-Hanson RSD, MA** **3/4/2021**

Historical Enrollment By Grade

Birth Year	Births	School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
2005	313	**2010-11**	128	314	338	346	329	341	365	339	363	328	317	291	302	315	0	4288	4416
2006	288	**2011-12**	117	292	323	341	361	331	353	364	337	370	281	317	287	308	0	4265	4382
2007	312	**2012-13**	81	308	301	327	343	349	336	339	371	344	307	272	324	308	0	4229	4310
2008	286	**2013-14**	93	267	314	294	316	339	342	336	334	372	284	309	279	327	0	4113	4206
2009	262	**2014-15**	105	242	287	315	293	320	330	342	331	342	292	286	312	286	0	3978	4083
2010	271	**2015-16**	109	261	269	292	315	300	332	339	344	326	280	294	293	324	0	3969	4078
2011	249	**2016-17**	114	254	274	272	290	315	315	335	335	342	267	279	289	319	0	3886	4000
2012	272	**2017-18**	115	247	265	268	267	295	316	307	328	342	280	272	278	320	0	3785	3900
2013	246	**2018-19**	107	237	263	260	265	270	298	321	300	335	289	294	268	299	0	3699	3806
2014	268	**2019-20**	111	237	248	266	262	269	276	305	328	306	274	286	286	290	0	3633	3744
2015	246	**2020-21**	80	204	250	239	262	265	271	270	310	329	238	272	281	304	0	3495	3575

Historical Enrollment in Grade Combinations

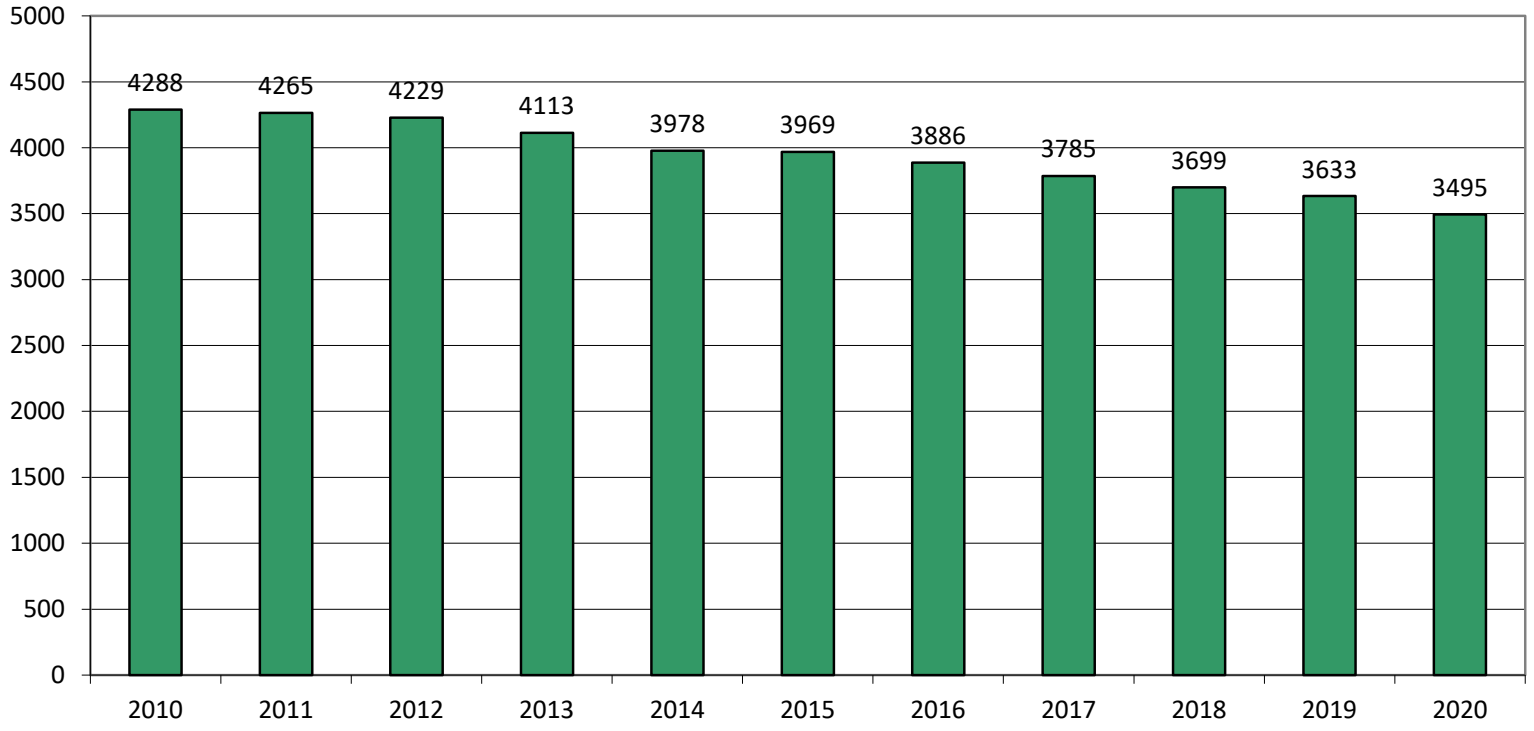
Year	PK-5	K-5	PK-2	K-2	3-5	6-8	7-8	7-12	9-12
2010-11	2161	2033	1126	998	1035	1030	691	1916	1225
2011-12	2118	2001	1073	956	1045	1071	707	1900	1193
2012-13	2045	1964	1017	936	1028	1054	715	1926	1211
2013-14	1965	1872	968	875	997	1042	706	1905	1199
2014-15	1892	1787	949	844	943	1015	673	1849	1176
2015-16	1878	1769	931	822	947	1009	670	1861	1191
2016-17	1834	1720	914	800	920	1012	677	1831	1154
2017-18	1773	1658	895	780	878	977	670	1820	1150
2018-19	1700	1593	867	760	833	956	635	1785	1150
2019-20	1669	1558	862	751	807	939	634	1770	1136
2020-21	1571	1491	773	693	798	909	639	1734	1095

Historical Percentage Changes

Year	K-12	Diff.	%
2010-11	4288	0	0.0%
2011-12	4265	-23	-0.5%
2012-13	4229	-36	-0.8%
2013-14	4113	-116	-2.7%
2014-15	3978	-135	-3.3%
2015-16	3969	-9	-0.2%
2016-17	3886	-83	-2.1%
2017-18	3785	-101	-2.6%
2018-19	3699	-86	-2.3%
2019-20	3633	-66	-1.8%
2020-21	3495	-138	-3.8%
Change		**-793**	**-18.5%**

Whitman-Hanson RSD, MA Historical Enrollment

K-12, 2010-2020



Whitman-Hanson RSD, MA Projected Enrollment

School District: Whitman-Hanson RSD, MA **3/4/2021**

Enrollment Projections By Grade*

Birth Year	Births		School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
2015	246		2020-21	80	204	250	239	262	265	271	270	310	329	238	272	281	304	0	3495	3575
2016	246		2021-22	109	225	216	248	238	266	269	276	271	317	270	241	266	302	0	3405	3514
2017	252		2022-23	110	234	238	214	247	242	269	274	277	277	261	274	236	285	0	3328	3438
2018	245	(prov.)	2023-24	111	226	247	236	213	251	245	274	275	283	229	265	268	253	0	3265	3376
2019	250	(prov.)	2024-25	112	230	238	245	235	217	254	250	275	281	234	232	259	288	0	3238	3350
2020	231	(prov.)	2025-26	113	211	243	236	244	239	220	259	251	281	232	237	227	277	0	3157	3270
2021	245	(est.)	2026-27	114	226	223	241	235	248	242	224	260	257	232	235	232	244	0	3099	3213
2022	245	(est.)	2027-28	115	225	238	221	240	239	251	247	225	266	212	235	230	249	0	3078	3193
2023	243	(est.)	2028-29	116	224	237	236	220	244	242	255	248	230	219	215	230	247	0	3047	3163
2024	243	(est.)	2029-30	117	223	236	235	235	224	247	246	256	254	190	222	210	247	0	3025	3142
2025	241	(est.)	2030-31	118	222	235	234	234	239	227	251	247	261	210	193	217	226	0	2996	3114

Note: Ungraded students (UNGR) often are high school students whose anticipated years of graduation are unknown, or students with special needs - UNGR not included in Grade Combinations for 7-12, 9-12, etc.

Based on an estimate of births | Based on children already born | Based on students already enrolled

Projected Enrollment in Grade Combinations*

Year	PK-5	K-5	PK-2	K-2	3-5	6-8	7-8	7-12	9-12
2020-21	1571	1491	773	693	798	909	639	1734	1095
2021-22	1571	1462	798	689	773	864	588	1667	1079
2022-23	1554	1444	796	686	758	828	554	1610	1056
2023-24	1529	1418	820	709	709	832	558	1573	1015
2024-25	1531	1419	825	713	706	806	556	1569	1013
2025-26	1506	1393	803	690	703	791	532	1505	973
2026-27	1529	1415	804	690	725	741	517	1460	943
2027-28	1529	1414	799	684	730	738	491	1417	926
2028-29	1519	1403	813	697	706	733	478	1389	911
2029-30	1517	1400	811	694	706	756	510	1379	869
2030-31	1509	1391	809	691	700	759	508	1354	846

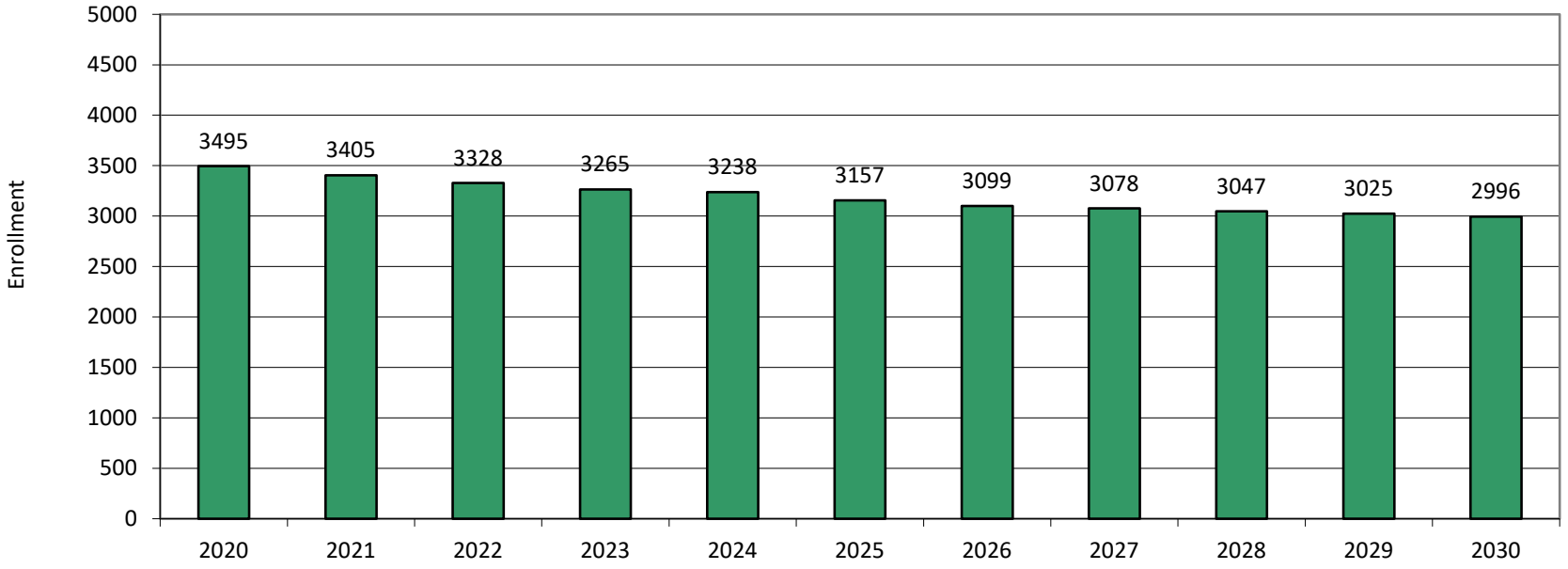
Projected Percentage Changes

Year	K-12	Diff.	%
2020-21	3495	0	0.0%
2021-22	3405	-90	-2.6%
2022-23	3328	-77	-2.3%
2023-24	3265	-63	-1.9%
2024-25	3238	-27	-0.8%
2025-26	3157	-81	-2.5%
2026-27	3099	-58	-1.8%
2027-28	3078	-21	-0.7%
2028-29	3047	-31	-1.0%
2029-30	3025	-22	-0.7%
2030-31	2996	-29	-1.0%
Change		-499	-14.3%

*Projections should be updated annually to reflect changes in in/out-migration of families, real estate sales, residential construction, births, and similar factors.

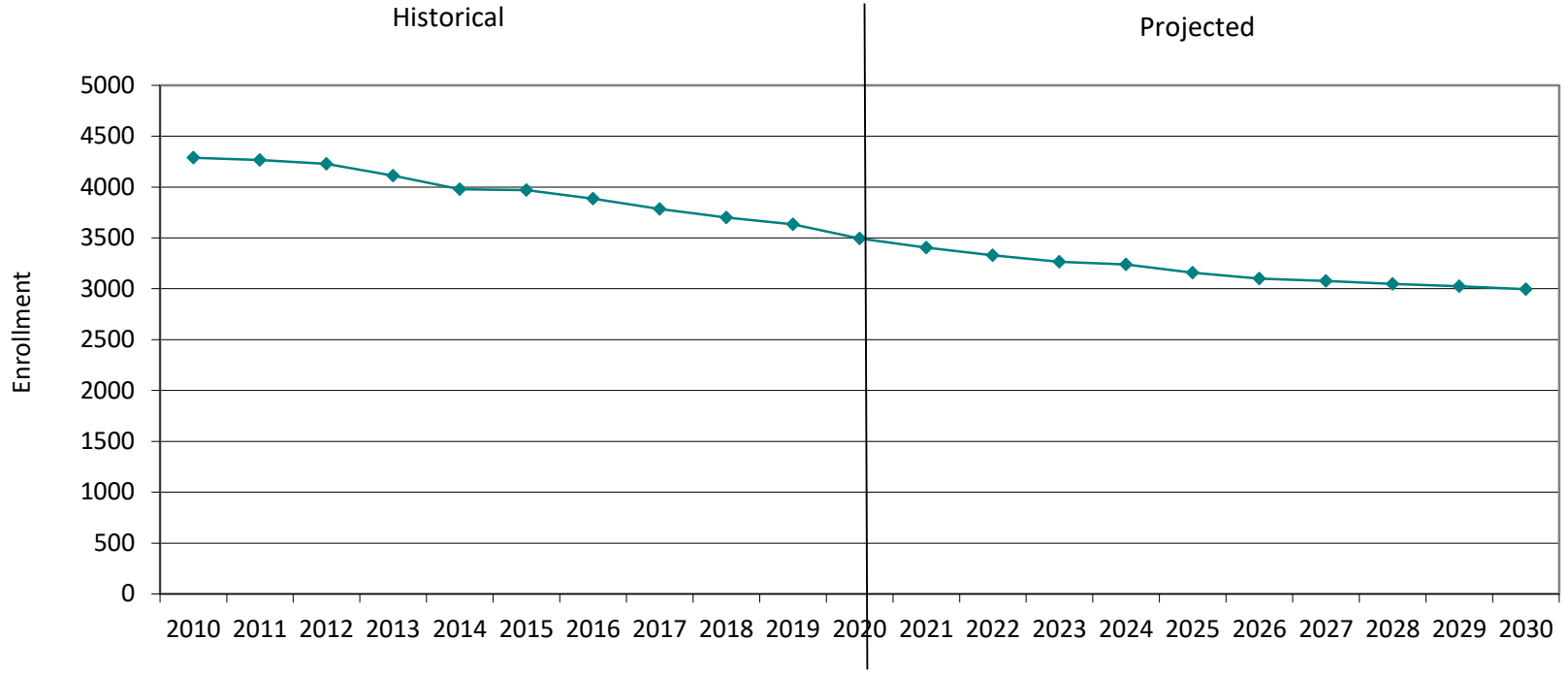
Whitman-Hanson RSD, MA Projected Enrollment

K-12 To 2030 Based On Data Through School Year 2019-20

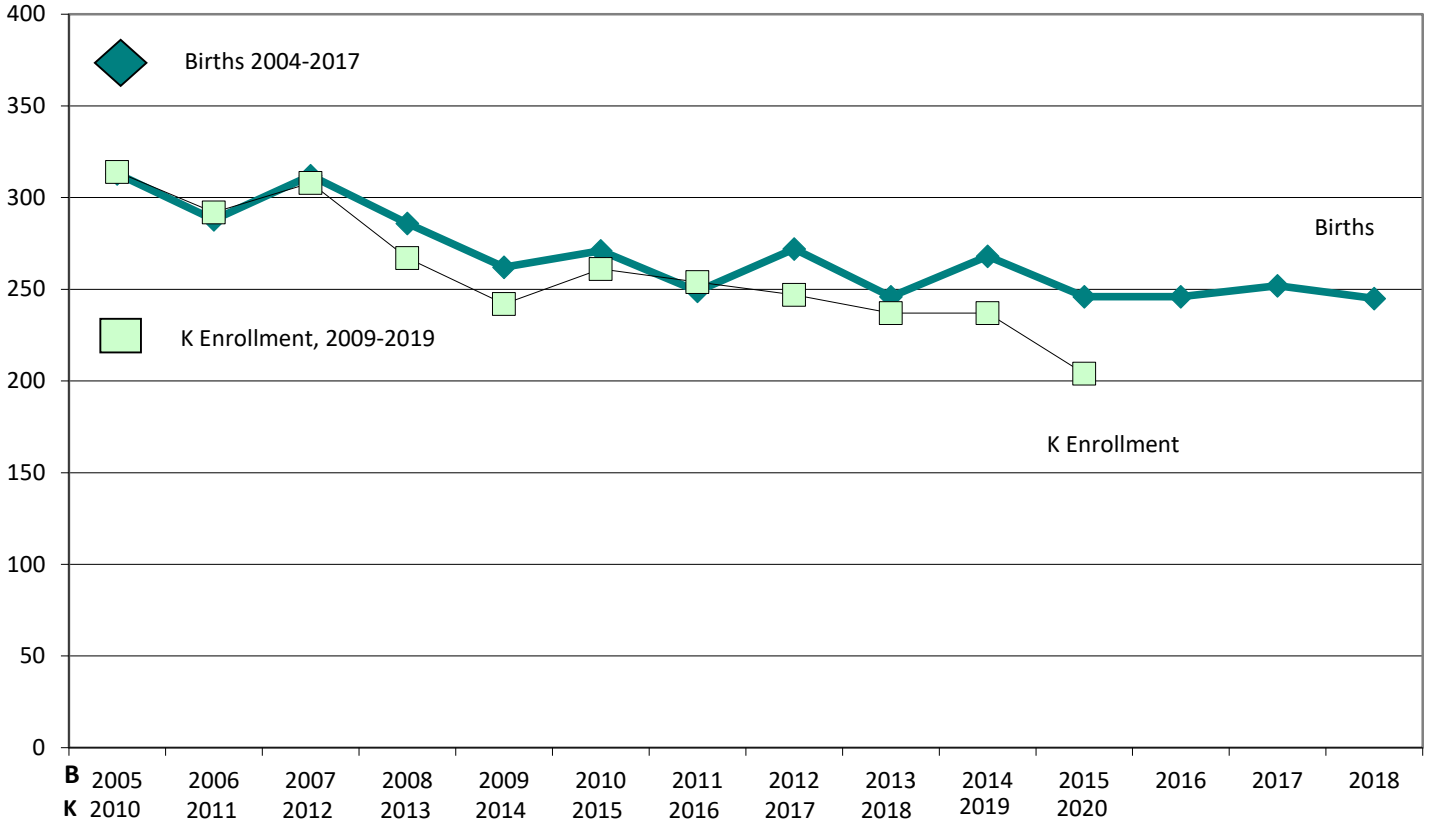


Whitman-Hanson RSD, MA Historical & Projected Enrollment

K-12, 2010-2030



Whitman-Hanson RSD, MA Birth-to-Kindergarten Relationship



Whitman-Hanson RSD, MA Additional Data

Building Permits Issued		
Year	Single-Family	Multi-Units
2005	127	0
2016	34	10
2017	64	33
2018	18	19
2019	21	24
2020	30 to date	50 to date

Source: HUD and Building Department

Enrollment History		
Year	Career-Tech 9-12 Total	Non-Public K-12 Total
2005-06	n/a	n/a
2016	226	147
2017	235	150
2018	219	121
2019	233	133
2020	227	90

Residents in Non-Public Independent and Parochial Schools (General Education)														
Enrollments as of Oct. 1	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12 TOTAL
	5	3	5	0	1	4	2	3	4	13	18	19	13	90

K-12 Home-Schooled Students	
2020	118

K-12 Residents in Charter or Magnet Schools, or "Choiced-out"	
2020	95

K-12 Special Education Outplaced Students	
2020	43

K-12 Tuitioned-In, Choiced-In, & Other Non-Residents	
2020	90

The above data were used to assist in the preparation of the enrollment projections. If additional demographic work is needed, please contact our office.

New England's PK-12 Enrollments
The "Big Picture"

From 2016 to 2028, the US Department of Education anticipates changes in PK-12 enrollment of +5.4% in the South; +2.1% in the West, -2.1% in the Midwest; and -3.7% in the Northeast.

State	Fall 2016 PK - 12	Fall 2028 Projected	PK-12 Decline	% Change, 2016-2028
CT	535,118	471,100	-64,018	-12.0%
ME	180,512	171,600	-8,912	-5.0%
MA	964,514	939,400	-25,114	-2.6%
NH	180,888	161,000	-19,888	-11.0%
RI	142,150	135,700	-6,450	-4.5%
VT	88,428	80,400	-8,028	-9.0%

Source: USDE, National Center for Education Statistics, *Projections of Education Statistics to 2028* , Table 3, Pages 35-36; Published May 28, 2020.

Although most New England Districts are seeing a decline in the number of births, NESDEC's experience indicates that the impact on enrollment varies from District to District. Almost half of New England Districts have been growing in PK-12 enrollment, and a similar number are declining (often in rural areas) with the other Districts remaining stable.

Appendix B

Whitman-Hanson Regional High School Program of Studies

Whitman-Hanson Regional High School

2021-2022
Program of Studies

WHITMAN-HANSON REGIONAL HIGH SCHOOL

PROGRAM OF STUDIES
"Pathways to Success"
2021-2022
SCHOOL YEAR

SUPERINTENDENT
Jeffrey B. Szymaniak

ASSISTANT SUPERINTENDENT OF SCHOOLS
George M. Ferro, Jr.

PRINCIPAL
Dr. Christopher S. Jones

ASSISTANT PRINCIPAL
David M. Floeck

DIRECTOR OF SCHOOL COUNSELING SERVICES
Ruth W. Carrigan

SCHOOL COMMITTEE
Robert W. Hayes, Chairperson
Christopher Scriven, Vice Chairperson
Steven D. Bois
Dawn M. Byers
Daniel P. Cullity
David J. Forth, Jr.
Christopher D. Howard
Michael H. Jones
Hillary M. Kniffen
Frederick M. Small

Updated 02/01/2021

TABLE OF CONTENTS

MISSION STATEMENT

Whitman-Hanson Regional High School provides all students with a high-quality education in order to develop reflective, concerned citizens and contributing members of the global community.

Core Values and Beliefs:

Students learn best when…

- **all decisions are made in their best interest.**
- **provided with a safe, secure, and healthy environment.**
- **high academic standards provide an opportunity for each student to reach his/her full potential.**
- **technology is utilized as an essential part of teaching and learning.**
- **provided with student-centered learning environments where successes and mistakes are valued as part of the learning process.**
- **personal responsibility and an understanding and respect for others are embraced.**
- **staff initiative, innovation and professional development are supported.**
- **the responsibility for education is shared with students, parents, and the community.**
- **broad-based communication and school-family-community partnerships are promoted.**

Student Learning Expectations:

1. **Read, write and communicate effectively.**
2. **Utilize technologies appropriately and effectively.**
3. **Apply critical thinking skills.**
4. **Explore and express ideas creatively.**
5. **Participate in learning both individually and collaboratively.**
6. **Demonstrate personal, social, and civic responsibility.**

Adopted by the School Committee February 9, 2011

COURSE SELECTION/ADDING/DROPPING COURSES

Students wishing to add or drop a course must complete the process within the first five days of any course. The fact that a student is failing a course is generally not sufficient reason to drop a course. Course changes may only be made with the approval of the counselor; teachers involved, appropriate curriculum coordinator, the parent, and only if there is a space available in the requested course. The Principal shall have the final determination in approval of a student's course of study, including the level of the courses selected (Academic, Honors, AP).

COURSE WITHDRAWAL

Pupils who withdraw from a course during the first five days shall receive no grade. The course will not be recorded on the pupil's permanent record. Students who withdraw after this time shall receive a grade of WF (withdraw failing) or WP (withdraw passing) on their permanent record for the course.

AUDIT

A student may audit a course or class (that is, attend without receiving credit towards graduation) with the permission of the teacher, the appropriate Curriculum Coordinator and his or her parent. Students who audit courses are expected to fulfill all course requirements including attendance, homework and class work, quizzes, tests and final examinations. Students will not receive letter grades on report cards, and transcripts will indicate whether or not the student completed the requirements for auditing.

CREDITS / PREREQUISITES

Course run for a semester or full year. Partial credit is not granted for not completing the full term of any course. Partial credit may only be granted with special permission of the Principal. Unless indicated otherwise in a course description, students should maintain a grade of C or better to continue in sequential courses or risk extreme difficulty meeting the academic requirements of the new course. In the case of extenuating circumstances, prerequisites may be waived by the Principal.

EXAMINATIONS/ASSESSMENTS

Students are required to take mid-year and final assessments in all full year academic courses. Performance on these assessments constitutes ten percent of the final grade. Should a student become ill or should a family emergency prevent a student from being present on the last day of a semester for the final assessment, a parent must call the school and inform us that the student will be absent. Only those absent students whose parents call the school on the day the assessment is scheduled will be eligible to take makeup final assessments.

GRADING POLICY

It is the philosophy of the Whitman-Hanson Regional School Committee that students respond more positively to the opportunity for success than to the threat of failure. We seek, therefore, through our instructional programs, to make achievement both recognizable and possible for students. We emphasize achievement in our processes of evaluating student performance. We report achievement through the use of letter grades.

The primary purpose of grading is to report to students and their parents the extent to which the student has mastered the content of a course as defined by the course objectives. Grades also serve to promote a process of continuous evaluation of student performance and provide a basis for bringing about changes in student performance, if such change is necessary.

Letter grades are used which have the following meanings:

A = Course objectives achieved in a superior manner.
B = Course objectives achieved in a highly satisfactory manner.
C = Course objectives achieved in a satisfactory manner.
D = Course objectives achieved in a minimum manner.
F = Course objectives not achieved: no credit granted.
I = Incomplete work.
WP = Student has withdrawn from the course with a passing grade.
WF = Student has withdrawn from the course with a failing grade.

BASIS FOR GRADING

Course expectations for each course shall be provided to every student within one week of the beginning of a course in order to inform both the students and the parents of each teacher's expectations and the responsibilities of the student relative to the successful completion of the course. Teachers will take time to explain to students the course objectives, the expectations for student performance and responsibilities and the evaluation system the teacher will use to determine the extent to which the student has achieved the course objectives. The teacher shall also make clear to the students at appropriate intervals and parents as necessary, the basis upon which the grades are earned.

Grades are based on evidence of the attainment of the instructional objectives of the course. The extent to which the student has attained these objectives shall be determined by his/her performance on assessment measures developed, administered and corrected by the teacher. The minimum passing grade for all courses shall be D-.

Student grades for every course shall use the Alpha scale listed below:

GRADE	RANGE
A+	97-100
A	93-96
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	0-59

CALCULATING YOUR GRADE POINT AVERAGE (GPA)

What is GPA?

GPA stands for Grade Point Average. It is the manner in which high schools and many post-secondary educational institutions numerically represent academic performance on your transcript. There are two ways to report a student's GPA: Unweighted GPA and Weighted GPA.

- **Your unweighted GPA does not take into account the level of courses that you are taking. For example, an "A" in an Academic Level course is equivalent to an "A" in an Honors Level course. At WHRHS, all courses a student takes are calculated into the unweighted GPA**
- **Your weighted GPA does take into account the level of courses that you are taking. For instance, an "A" in an Academic Level course does not carry as much weight as an "A" in an Honors Level course. Therefore, if you are taking academically rigorous courses, then your grades will be weighted**

more heavily into your "weighted" GPA. At WHRHS a student's weighted GPA includes only college
preparatory, honors, and Advanced Placement classes in the major academic subject areas of mathematics, English, science, social studies, and world language. See below for a table of weights.

Why should you care about GPA?

- **If you are thinking of continuing your education after high school, you will be required to have a certain minimum GPA to be considered as an applicant to many schools (see pg. 9 for minimum GPA requirements for Massachusetts State Colleges and Universities).**
- **By keeping track of your GPA on a regular basis, you can monitor your progress and take corrective action in a timely fashion.**

How is GPA calculated?

Step 1: A final numerical grade for each student is computed for each course taken within the approved academic discipline. Failing grades are included.

Step 2: Weighted values are assigned to final grades using the table below. (Levels of courses are taken into account). Weighted values are then multiplied by course credit for a total value.

Step 3: The sum of the grade values are divided by the total number of credits attempted to determine a GPA.

Whitman-Hanson Regional High School GPA Calculation

	Un-weighted	Weighted Values AP	Weighted Values Honors	Weighted Values Academic
A+	4.30	5.30	4.80	4.30
A	4.00	5.00	4.50	4.00
A-	3.70	4.70	4.20	3.70
B+	3.30	4.30	3.80	3.30
B	3.00	4.00	3.50	3.00
B-	2.70	3.70	3.20	2.70
C+	2.30	3.30	2.80	2.30
C	2.00	3.00	2.50	2.00
C-	1.70	2.70	2.20	1.70
D+	1.30	2.30	1.80	1.30
D	1.00	2.00	1.50	1.00
D-	0.70	1.70	1.20	.70
F	0	0	0	0

A student's unweighted GPA includes all classes taken, and a weighted GPA includes only college preparatory, honors, and Advanced Placement classes in the major academic subject areas of mathematics, English, science, social studies, and world language. Both the weighted and unweighted GPA are printed on the student transcript.

GRADUATION POLICY

Graduation from the Whitman-Hanson Regional High School signifies that a student has satisfactorily completed the prescribed course of study as established by the Regional School Committee in accordance with the laws of Massachusetts. A student must earn credits as indicated on the chart of graduation requirements found on the next page. Fourth year students who lack sufficient credits to graduate may request approval from the Principal to enroll in an area night school to earn additional credits. A maximum of eight (8) credits may be earned in night school, or as determined by the Principal.

In addition, in order to participate in graduation ceremonies, senior students must have:

1. **Successfully completed all academic requirements for graduation by the last school day for seniors.**
2. **Successfully passed all requirements set by the Commonwealth of Massachusetts and the Department of Education including the MCAS test.**

3. **Satisfied *all* financial obligations to the Regional School District no later than five calendar days after the last school day for seniors.**

The last day for seniors shall be established by the Committee in accordance with Massachusetts Regulations (603 CMR 27.03).

The date of graduation ceremonies shall be no more than 12 days before the last day of school (Ch.71. s.4). The actual date shall be established by the Committee.

The following *required* courses must be satisfactorily *passed* by all students:

Graduation Requirements	
English Language Arts	16 credits
Mathematics	16 credits
Science	12 credits
Social Studies	12 credits
World Language	8 credits in a single language
Physical Education	8 credits
Health	2 credits
Computer Literacy (Financial Literacy required for the Class of 2024 and beyond)	4 credits
Elective Credit	10 – 20 based on requirements below

Graduation Requirements for the Class of 2021 and beyond: 90 credits

Additional credits needed for graduation shall be earned by satisfactorily completing courses offered by any department. All students are required to carry six (6) courses at all times. Exceptions will be made for fifth year students or with special permission by the Principal.

Students repeating a course to improve their grade cannot receive credit for the course twice.

Financial Literacy, Investing Your Money, Entrepreneurship, Accounting, Digital Photography I, Music Technology I & II, Web Page Development, Intro to TV/Radio Production, Computer Graphics I & II, Computer Aided Design I & II, Intro to Computer Programing, Computer Science, TV/Radio Production II, Visual Merchandising, Robotics or any other computer related course approved by the Principal may be used for computer credit.

In the event that a senior student has not satisfactorily completed the Whitman-Hanson District's academic requirements for graduation as stated in the policy entitled GRADUATION REQUIREMENTS and believes that he/she should graduate, he/she may request a waiver of graduation requirements in whole or in part. This request for a waiver does not apply to the requirement to pass the MCAS test. Please see your school counselor about this protocol.

MASSACHUSETTS STATE UNIVERSITIES AND UMASS MINIMUM ADMISSIONS REQUIREMENTS

The admissions standards for the state universities and UMass emphasize a strong academic high school background so that students enter college ready to learn. These standards represent minimum requirements; meeting them does not guarantee admission, since campus officials consider a wide range of factors in admissions decisions. Students shall have fulfilled all requirements for the high school diploma or its equivalent upon enrollment. *It is important to note that admissions standards for the state's community colleges differ. Community colleges may admit any high school graduate or GED recipient.*

Freshman Applicants

The admissions standards for freshmen applicants have two main parts:

1. 16 required academic courses.

2. **A minimum required grade point average (GPA) earned in college preparatory courses completed at the time of application.**

Applicants must also submit an SAT or ACT score.

Academic Course Requirement

Sixteen* college preparatory courses distributed as follows are required. (A course is equivalent to one full school year of study. Courses count toward the distribution only if passed.)

*** Effective with the college freshman class entering fall 2016, the number of required courses will increase to 17 with the additional year of math.**

Subject	Requirements for Entering College Freshmen		
	Fall 2015	Fall 2016	Fall 2017 and beyond
English	4 courses		
Mathematics	3 courses (Algebra I & II and Geometry or Trigonometry or comparable coursework)	4 courses (Algebra I & II and Geometry or Trigonometry, or comparable coursework) including mathematics during the final year of high school	
Sciences	3 courses (from Natural Science and/or Physical Science and/or Technology/ Engineering, including 2 courses with laboratory work).		3 courses (from Natural Science and/or Physical Science and/or Technology/ Engineering), including 3 courses with laboratory work
Social Sciences	2 courses (including 1 course in U.S. History)		
Foreign Languages	2 courses (in a single language) *Note: American Sign Language (ASL) is a foreign language.*		
Electives	2 courses (from the above subjects or from the Arts & Humanities or Computer Sciences)		

Minimum Required Grade Point Average (GPA)

The GPA must be achieved based on all college preparatory courses completed at the time of application and should be weighted for accelerated (Honors or Advanced Placement) courses. The required minimum weighted high school GPA is 3.0 for the four-year public campuses.

State University GPA	University of Massachusetts GPA
3.00	3.00

SAT Scores

Applicants who meet the GPA requirement do not have to use the sliding scale for admission, but still must submit SAT or ACT test scores for consideration if they are applying to a state university or UMass within three years of high school graduation.

Sliding Scale (used when GPA is lower than the minimum required GPA)

If an applicant's GPA falls below the required minimum, a sliding scale will apply. ***This scale should be used only when an applicant's GPA falls below the required 3.0 minimum for admission to the state universities or UMass.***

Scores on the new writing section of the SAT will not affect the sliding scale for freshman applicants to the Massachusetts state universities and to the University of Massachusetts at this time. The sliding scale, used in making admissions decisions for students with high school grade point averages falling below the required

minimum, will continue to be based upon the combined critical reading (verbal) and math sections of the SAT.

Sliding Scale for Freshman Applicants to UMass

Weighted High School GPA	UMASS Applicant Combined SAT Math and EBR&W must equal or exceed	State University Applicant Combined SAT Math and EBR&W must equal or exceed
2.51-2.99	1030	990
2.41-2.50	1070	1030
2.31-2.40	1110	1070
2.21-2.30	1140	1110
2.11-2.20	1180	1140
2.00-2.10	1220	1180

NO APPLICANT WITH A HIGH SCHOOL GPA BELOW 2.00 MAY BE ADMITTED TO A STATE UNIVERSITY OR UNIVERSITY OF MASSACHUSETTS CAMPUS.

INSTRUCTIONAL LEVELS

All courses provide each student maximum opportunity for achievement commensurate with their ability, performance, and academic goals. Based upon realistic self-assessment, students are encouraged to select a course of study that is consistent with their current academic goals and future aspirations, as well as their motivation to succeed and put forth their best effort. The instructional levels offered at Whitman-Hanson are:

ACADEMIC: (A) Academic level courses provide a challenging curriculum with high expectations for student learning. These courses prepare students to become college and/or career ready.

HONORS: (H) Honors level courses are designed for the superior student who has consistently demonstrated the ability and intrinsic motivation to achieve a high degree of success in a rigorous academic program. This student is also committed to continuing his/her formal academic learning in a post-secondary institution. A final average of B- is *strongly recommended* for students wishing to continue in honors level courses.

ADVANCED PLACEMENT: (AP) Advanced Placement courses are offered in US History, English Literature, English Language, Modern European History, Calculus, Statistics, Biology, Chemistry, Physics, Environmental Science, Psychology, US Government & Politics, Computer Science, and Spanish. These rigorous courses provide students with the opportunity to earn college credit while still in high school if they attend one of the hundreds of colleges or universities which participate in the Advanced Placement program. In May, at the completion of the course, students take the Advanced Placement Exams developed by the College Entrance Examination Board. Students scoring a passing grade on the Advanced Placement Exam may be awarded college credit.

Due to the expenses involved in the AP Examination, the following regulations pertain to those students who wish to take these courses:
All students taking the course are expected to take the examination in May. The cost of the exam varies from year to year. This year, the anticipated cost is $90. This cost must be paid in full prior to the AP exam ordering deadline. Any student claiming financial need should see the Director of School Counseling Services.

SPECIAL EDUCATION SERVICES

The Special Education Department offers programs and services for students requiring specially designed instruction. Content area support, related services, substantially separate programmatic options, and assessment and evaluation are delivered in accordance with students' unique learning profiles. Individual Education Programs (IEPs) are written with the intention of providing students access to the curriculum in their least restrictive environment.

GLOBAL AWARENESS PROGRAM

MISSION

The Global Awareness Program (GAP) promotes global awareness, a key twenty-first century skill, in Whitman-Hanson Regional High School students. Participants will enhance their global perspective, heighten their appreciation of diversity, and prepare themselves to succeed in a world that is being increasingly influenced by cultures that are world to their own.

GLOBAL AWARENESS CERTIFICATE

The Global Awareness Certificate is an application-based program with specific requirements. Academic requirements include the successful completion of the following courses:

a. **Modern World History**
b. **Two years of the same world language**

Plus any three of the following:

c. **AP European History**
d. **Modern China**
e. **Global Studies Independent Research**
f. **Minimum of three years of the same world language or AP Spanish**
g. **Spanish or French Practicum**
h. **A pre-approved relevant virtual high school course**

INDEPENDENT STUDY

Given the advance approval of the appropriate Curriculum Coordinator and the Principal, pupils may undertake an independent learning experience. A maximum of four credits may be awarded by the department or departments endorsing the project.

Students wishing to pursue an independent learning experience may do so with the assistance of a supervising teacher. The student and teacher must submit a project proposal to the appropriate Curriculum Coordinator for approval. The project request must contain the purpose of the project, the objectives to be achieved, the anticipated activities and the method of evaluation planned upon completion of the project. The Curriculum Coordinator will forward the completed proposal to the Principal for final acceptance. Following this, the accepted proposal will be filed in the student's folder. It is the responsibility of the approving Curriculum Coordinator to advise and review the project. The burden of responsibility, however, is on the student to follow the established process from proposal to final grade. Enrollment in this program is limited.

SUMMER SCHOOL

The Whitman-Hanson Regional School District will conduct Summer School as a supplement to the instruction offered during the school year. The major purpose of the summer school program is to provide students an additional opportunity to make up work in the required subjects failed during the regular school year. Subject to sufficient enrollment, courses in each area required for graduation will be offered in summer school.

Summer school will be four weeks in length and begin the first week in July. Students must pay for all courses they wish to take before the first day of summer school. The fee for Summer School shall be set by the Regional School Committee each year. No refunds (prorated) will be made after the second day of attendance at summer school.

Parents will be notified as to the status of Summer School by June 1. The status shall include whether Summer School will be opening or not, a list of courses and tuition rates. If Summer School is cancelled, parents of students affected will receive a list of area summer schools and their locations. All policies and regulations established for the regular school year pertaining to student behavior shall apply to students enrolled in summer school.

WHITMAN-HANSON COMMUNITY EVENING SCHOOL

Whitman-Hanson Regional High School is committed to educating all students and creating avenues of success for all. When it becomes apparent that the traditional day school program does not fit the educational needs of a student, the Whitman-Hanson Community Evening School is a possible option.

The WHCES provides Whitman and Hanson students in at-risk situations an opportunity to obtain a high school diploma. It is an alternative after school and evening program that is open to students from Whitman and Hanson for the diploma track. Resident students must meet specific graduation requirements including passing scores on MCAS exams in order to obtain a Community Evening School diploma. Additionally, students must take a minimum of three courses at the CES in order to receive a diploma. There is no cost associated with the diploma track and classes meet on a semester schedule. Summer programming is available based on enrollment.

Attending the WHCES is a significant decision that needs to be considered carefully by students with the help of parents/guardians, teachers, counselors and administrators. In order to be considered as a diploma candidate, students must be at least 16 years old or have approval by the principal and must meet with the program director to discuss the student's commitment and interest in earning a high school diploma from the Evening School. It is important to note that students who enroll in the Whitman-Hanson Community Evening School are no longer allowed to participate in activities sponsored by Whitman-Hanson Regional High School. In addition, high school students in the Whitman-Hanson district as well as out of district may take courses at WHCES for credit recovery. They will be subject to a "per class" fee.

COURSE DESCRIPTIONS BY CURRICULUM AREAS

ENGLISH LANGUAGE ARTS

The Whitman-Hanson English Department fosters a love of reading and writing through diverse literacy content and standards-based instruction. We focus on critical thinking skills, effective communication, media and digital literacy and social awareness through real world application in the classroom. The curriculum places particular emphasis on each student's appreciation, understanding, and awareness of the many levels and processes of written, spoken, and visual communication.

Whitman–Hanson students are required to earn sixteen credits in English Language Arts in order to satisfy graduation requirements and are routinely expected to be able to meet the Whitman-Hanson Student Learning Expectations.

COURSE	CREDITS	GRADE

1000 ENGLISH I Academic — **4** — **Grade 9**

This course places an emphasis on writing and language skills; students will be expected to compose multi-draft argument, expository, and narrative essays. Literary selections from American and world cultures may include novels, drama, short stories, poetry and nonfiction. A traditional novelist, Harper Lee, is read and analyzed along with selected essayists and poets. Attention will be given to vocabulary building, precise language usage, critical thinking skills, and preparation for both MCAS and the SAT. Students will be evaluated on outside reading assignments. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

1020 ENGLISH I Honors — **4** — **Grade 9**

This course is designed to meet the needs of students who have consistently demonstrated both outstanding ability and motivation in all phases of language arts. The curriculum includes an accelerated program in classical and modern literature, revolving around the themes of self-identity, love and hate, and the concept of the hero. Each of these humanities-based units focuses on an analysis of a major literary work, in addition to poetry, short stories, nonfiction, and artistic selections. The curriculum also includes weekly composition experiences emphasizing logical and effective expository thinking, a review of grammar and usage skills as necessary, advanced vocabulary study, and a literary research paper. Active participation in class discussions is encouraged and expected. This course includes preparation for both MCAS and the SAT. Students will be evaluated on outside reading assignments. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: Grade 8 teacher recommendation is strongly suggested.

1100 ENGLISH II Academic — **4** — **Grade 10**

This course offers a survey of American literature through the study of drama, novels, short stories, poetry, and nonfiction. Students are given intensive experiences in all language skill areas: reading, writing, speaking, listening, viewing and analysis. This course continues to emphasize writing and language skills; students will be expected to compose multi-draft argument, expository, and narrative essays. This course includes preparation for both MCAS and the SAT. Students will be evaluated on outside reading assignments. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: English I

1120 ENGLISH II Honors — **4** — **Grade 10**

This course offers the able and serious student a comprehensive program in literature, composition, speech, accelerated vocabulary work, and grammar. Classical Greek, Shakespearean, and contemporary dramas are studied and compared. A traditional novelist, Fitzgerald, is read and analyzed along with selected essayists and poets. Writing assignments emphasize the critical essay and the literary term paper. Learning experiences range from those of the traditional classroom to independent research to cooperative study presentation. This course includes preparation for both MCAS and the SAT. Students will be evaluated on outside reading assignments. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: It is strongly recommended that students earn a B or better in English I Honors or an A in English I Academic.

1200 ENGLISH III Academic 4 Grade 11
This course examines major trends in the development of British literature in a study of various literary types. Course readings will also include expository, analytical, personal, and argumentative texts from a variety of authors and historical contexts. Attention will be given to rhetorical strategies, vocabulary building, precise language usage, critical thinking skills, and preparation for the College Board Exams. A major unit of study will require students to produce a research paper. Preparation for the SAT is included in this course. Students will be evaluated on outside reading assignments. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: English II

1220 ENGLISH III Honors 4 Grade 11
This course continues the intensive study outlined in English II Honors. Course readings feature expository, analytical, personal, and argumentative texts from a variety of authors and historical contexts. Frequent lengthy, analytical papers are required including a rhetorical essay and a major term paper. Students are expected to become independent, critical thinkers and writers of mature, lucid prose. Class activities often include cooperative learning assignments that lead to students' insightful presentations about the subject matter. Preparation for the SAT is included in this course. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: It is strongly recommended that students earn a B or better in English II honors or an A in English II Academic.

1240 Advanced Placement LANGUAGE AND COMPOSITION 4 Grade 11
Students in this college-level course read and carefully analyze a broad and challenging range of nonfiction prose selections, deepening their awareness of rhetoric and how language works. Through close reading and frequent writing, students develop their ability to work with language and text with a greater awareness of purpose and strategy, while strengthening their own composing abilities. Course readings feature expository, analytical, personal, and argumentative texts from a variety of authors and historical contexts. Summer reading and writing are required. Preparation for the SATs and the AP® English Language and Composition Exam occur throughout the year. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: It is strongly recommended that students earn a B or better in English II honors or an A in English II Academic.

1350 ENGLISH IV Academic 4 Grade 12
This course is designed to offer a challenging study of world literature including Shakespearian dramas, American classics such as *Death of a Salesman,* and other major works. The writing of a college admissions essay, the application process, and preparation for the SAT are included during semester one of this course. Outside reading is required and all students are expected to produce a persuasive research paper on an approved topic. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: English III

1430 ENGLISH IV Honors 4 Grade 12
This course continues the intensive study outlined in English III Honors. Emphasis is placed on world literature in multiple genres and styles that provide a rich variety of challenging works expressing complex themes. Frequent lengthy, analytical papers are required including a major term paper. Students are expected to become independent, critical thinkers and writers of mature, lucid prose. Class activities often include cooperative learning assignments that lead to students' insightful presentations about the subject matter. The writing of college admissions essays, the application process, and preparation for the SAT are included during semester one of this course. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: It is strongly recommended that students earn a B or better in English III Honors or an A in English III Academic.

1450 Advanced Placement LITERATURE AND COMPOSITION 4 Grade 12
This intensive course is designed for students who have demonstrated mastery in English III Honors. Students will continue the study of American, British, and European literature through an extensive survey of challenging novels, plays, and poems. Emphasis will be placed on producing frequent lengthy papers that probe complex philosophical and aesthetic issues as well as writers' techniques for representing these themes. Students will also write a major term paper. Class activities will focus on students' further development as skilled, experienced interpreters of literary art. To enhance critical thinking skills, students will frequently complete timed multiple choice exams throughout the year. The writing of college admissions essays, the application process, and preparation for the SAT are included during semester one. Emphasis is on students' writing insightful analyses, with special attention to preparation for success with the English Literature and Composition Advanced Placement Examination. The course addresses Whitman-Hanson Student Learning Expectations 1-6.

ENGLISH ELECTIVES

COURSE CREDITS GRADE

1500 ANALYZING FILM 2 Grades 10-12
This course seeks to develop a person's ability to evaluate and critically respond to film. Students will discuss and write about the visual, technical, symbolic, thematic, and artistic components of each film viewed. By examining the artistic elements of movie-making, students will learn to look at films in a new way. A major film project is required by each student. Class attendance is crucial.

1501 ANALYZING FILM II 2 Grades 11-12
This course seeks to further develop a student's ability to analyze, deconstruct, and evaluate films, building on their experiences and academic achievements from Analyzing Film I. This course is for the serious-minded film student who has a profound interest in the subject and/or is considering film-related studies. Although fewer films will be covered, students will explore each in a more serious and in-depth manner with the expectation that specific film terminology and techniques will be incorporated throughout. A final film project is required for this course.

Prerequisite: Successful completion of Analyzing Film

1510 CREATIVE WRITING 2 Grades 9-12
This course is designed to give students an opportunity to pursue special studies in aspects of creative writing not otherwise offered. This course teaches students strategies for focusing, planning, composing, revising and editing their writing. Students will write fiction of various lengths and styles, critique peers' work, and relate their work to professional authors.

1511 CREATIVE WRITING II 2 Grades 10-12
Do you wish Creative Writing lasted longer, or that you could take the class again? Well, you're in luck! Due to popular demand, the English department is offering Creative Writing II! This course digs deeper into the units explored in Creative Writing, and will be structured as a writing workshop course. Students will participate in conferences weekly where they will offer each other valuable feedback as well as critique the writing of their peers and published authors. If you're a serious writer, looking to be part of a community of other talented writers, this class is for you as we will delve deeper into the units covered in Creative Writing I including journalism and narrative writing. We will also be reading selections from various memoirs and works from contemporary authors and poets. This course will address Whitman-Hanson Regional High School's Student Learning Expectations 1-6.

Prerequisite: Creative Writing (It is strongly recommended that students earn a B or better in Creative Writing.

1520 WRITING CHILDREN'S LITERATURE 2 Grades 9-12
This course will expose students to the development and production of stories for children through close analysis of well-known authors and writing workshops. Students will read and evaluate a variety of children's literature including picture books, fairy tales, and young adult literature. Students will write a series of children's stories culminating in a major project for publication. Each student is expected to write, edit and evaluate children's literature. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

1541 TEEN LITERATURE 2 Grades 9-12
Why would you take another English class? You will take this class because, finally, someone is going to ask you to read stories *about all the things that are happening to you and your friends*. In this semester long course students will be required to read and explore four novels. Each novel will feature an adolescent protagonist and focus on themes relevant to the teen experience. The novels read in class will include an example of popular modern fiction, historical fiction, fantastical fiction and a student selected novel. For too long you and your friends have been dragged, unhappily, through old, dated, distant, doddering literature that fails to speak with a teenager's voice. All of that changes with this class. This course will address Whitman-Hanson Regional High School's Student Learning Expectations 1-6.

1542 BEHIND THE MASK: A STUDY OF THE SUPERHERO 2 Grades 9-12
Superman, Batman, Captain America, Wonder Woman, and Spider-Man…these classic characters are the foundation of the modern superhero. Since their creation, these all-American icons have endured through decades of war, triumph, and scandal, constantly evolving to reflect the country's changing values in a tumultuous world. From World War II and Vietnam, to Watergate and the tragedy of 9/11, these mythic heroes embody America's deepest fears and greatest aspirations. In this course, students will study the impact that changing times has had on the evolution of the superhero and explore how this uniquely American mythology developed and where it is headed in the future. This course will address Whitman-Hanson Regional High School's Student Learning Expectations 1-6.

1544 WAR THROUGH A LITERARY LENS 2 Grades 10-12
This course offers students the opportunity to read about and analyze war from a variety of perspectives that span both time and geography. Whether the work is about World War I Germany or Vietnam, students will seek to understand the universal traits that drive cultures and individuals to war, as well as the consequences of war on both the men and women who fight and those who stay at home. Students will also explore the ways that they can try to create a more peaceful and tolerant world. Sources will include novels, short stories, poetry, nonfiction, and films.

1545 BIG IDEAS IN NONFICTION 2 Grades 9-12
Reading nonfiction is more than just understanding text structures. This course helps students challenge the claims of nonfiction authors, be challenged by them, and enhance awareness of self and society. In learning to understand and analyze nonfiction, students will develop critical reading and literary study skills for use in other literature courses at the high school or college level. *Reading Nonfiction* by Kylene Beers and Robert Probst will be a core resource for this course.

1546 PUBLIC SPEAKING AND PRESENTATION 2 Grades 10-12
Public Speaking and Presentation is for the student who wants to learn techniques of making presentations, from persuasive speaking to interviews to "elevator speeches" to entertainment. Specific attention is given to quality speech writing, debate preparation, and effective oral presentation of material.

VISUAL ART, MUSIC AND COMMUNICATIONS (VAMCO)

The Visual Arts, Music and Communication programs offer a wide selection of experiences in the artistic development of students of all abilities and interests. Curriculum offerings within these areas provide a solid foundation in the basic principles of art, music and digital communication with opportunities for specialization, growth, and personal artistic expression. Each of the offerings presents interdisciplinary challenges and provides opportunities for the incorporation of the students' expectations within the curriculum. The student expectations include the ability to (1) Read, write, and communicate effectively; (2) Use technologies effectively;

(3) Apply critical thinking skills to solve problems; (4) Creatively explore and express ideas; (5) Work effectively both individually and collaboratively; (6) Demonstrate personal, social, and civic responsibility. These expectations shall be referred to by number in the course descriptions that follow. A major goal of the VAMCO programs is to help students to develop their personal talents, to value and enjoy artistic and musical expression, and to understand the role of art, design and music in the cultural evolution of mankind.

COURSE	CREDITS	GRADE

1720 VIDEO PRODUCTION **2** **Grades 9-12**

Video Production is an introduction class designed to provide students with artistic, creative and historical background in the fields of video, broadcasting, and film production. Students will explore pre-production, production and post-production phases of project development. Students will create video based projects utilizing industry standard programs in the Adobe Creative Cloud. Student created content will be featured within the WHTV news broadcast and on WHCA-TV. Throughout the course students will focus on Digital Citizenship in our current media climate. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

1721 WHTV NEWS & BROADCAST **2** **Grades 10-12**

Students in this class will produce a daily Whitman-Hanson newscast. Students will work in various roles both in front of and behind the camera. Those enrolled in this course will act as designers, writers, anchors, and reporters covering all things WH. Students must complete courses 1720 or 2360 or 2380 in order to take this course. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

1730 TV PRODUCTION II **2** **Grades 10-12**

Now that students have a strong foundation in the development of TV projects, the next step is the implementation into a full TV show. Students will learn all of the elements which make up a working TV studio including: directing, producing, writing, set designing and on-air performing. In addition, students will learn Adobe Premiere editing system as well as After-Effects and other programs in the Adobe Creative Suite Package. Student work will be displayed to the school and to the community via channel 98. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

1780 WHITMAN-HANSON NEWS TEAM **2** **Grades 10-12**

Students in this class will produce a daily Whitman-Hanson newscast. Students will work in various roles both in front of and behind the camera. In addition to the daily newscast, students will be required to complete a special project in cooperation with two other classmates. Some examples of a special project include: local documentary, coverage of a WH sporting event or student activity, staff biography or entertainment style talk show. *Students must complete courses 1720 and 1730 in order to take this course.* This course addresses Whitman-Hanson Student Learning Expectations 1-6.

FINE ARTS AND MUSIC

The Fine Arts and Music programs offer a wide selection of experiences in the musical and artistic development of students of all abilities and interests. Curriculum offerings within these areas provide a solid foundation in the basic principles of art and music with opportunities for specialization, growth, and personal artistic expression. Each of the Fine Arts and Music offerings presents interdisciplinary challenges and provides opportunities for the incorporation of the students' expectations within the curriculum. The student expectations include the ability to (1) Read, write, and communicate effectively; (2) Use technologies effectively; (3) Apply critical thinking skills to solve problems; (4) Creatively explore and express ideas; (5) Work effectively both individually and collaboratively; (6) Demonstrate personal, social, and civic responsibility. These expectations shall be referred to by number in the course descriptions that follow. A major goal of both of the Fine Arts and Music programs is to help students to develop their personal talents, to value and enjoy artistic and musical expression, and to understand the role of art and music in the cultural evolution of mankind.

COURSE **CREDITS** **GRADE**

2000 BAND **2** **Grades 9-12**

This course provides the instrumental music student with a small ensemble playing experience. Students work on a variety of musical styles that raise their level of performance. Freshman band students are encouraged to take this course during the 1st semester to ease their transition into the high school band. This course may be taken twice during any one school year. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: Audition

2060 CHORUS **2** **Grades 9-12**

The choral program encompasses a wide variety of music styles and periods with an accent on appreciation through performance. Rehearsals and performances after school and/or evenings are required as part of this course in order to insure quality performances. This course may be taken twice during any one school year. This course addresses Whitman-Hanson Student Learning Expectations 1, 3-6.

2100 BEGINNING GUITAR (Level I) **2** **Grades 9-12**

This course is designed as an introductory course in guitar for the beginning student. The class will be introduced to the fundamentals of sight-reading, basic chord structure, rhythm techniques, progressions and chord charts. The students will be required to perform classical, popular and rock selections, both individually and within ensemble and combo structure. Considerable practice outside of class time is required. Students must provide their own instruments. This course addresses Whitman-Hanson Student Learning Expectations 1, 3-6.

2101 BEGINNING GUITAR (Level II) **2** **Grades 10-12**

This class is offered to students that have taken and passed Beginning Guitar (Level I) and are interested in continuing their studies of the instrument. Students will continue to work on technique, song repertoire, scale and chordal studies towards improving their technical and musical abilities on the guitar. Considerable practice outside of class is required to be successful. Students must provide their own instruments. This course addresses Whitman- Hanson Student Learning Expectations 1, 3-6.

2110 ADVANCED GUITAR (Level III) **2** **Grades 10-12**

Advanced Guitar is designed for the student who has taken and passed Beginning Guitar (Level II) has training, interest and ability in guitar performances in an ensemble or combo structure. Through the use of transcriptions, ear training, audio and video performance recordings, the class will learn to perform a variety of works tailored to the abilities of the participants. Although recording will be used as a learning tool, the major focus is toward improvement of five performance techniques. Considerable practice outside of class time is required. Students must provide their own instruments. This course addresses Whitman- Hanson Student Learning Expectations 1-6.

Suggested: Beginning Guitar Level II, Audition or prior written approval by the instructor

2111 ADVANCED GUITAR (Level IV) **2** **Grades 10-12**

Advanced Guitar is designed for the student who has taken and passed Advanced Guitar (Level III) and has training, interest and ability in guitar performances in an ensemble or combo structure. Through the use of transcriptions, ear training, audio and video performance recordings, the class will learn to perform a variety of works tailored to the abilities of the participants. Although recording will be used as a learning tool, the major focus is toward improvement of five performance techniques. Considerable practice outside of class time is required. Students must provide their own instruments. This course addresses Whitman- Hanson Student Learning Expectations 1-6.

Suggested: Advanced Guitar Level III, Audition or prior written approval by the instructor

2120 BEGINNING POP ROCK ENSEMBLE 2 Grades 9-12

This course is designed to introduce students to the technical and performance aspects of starting a band. The course will introduce students to performing, recording and producing music in a wide variety of popular and rock styles. Students will also be introduced to the procedures, techniques and equipment used to record a band. Students should have some experience on their chosen instrument, including voice and will need to have their own equipment available for class on a daily basis. Success in the class depends on students working together to create a marketable product. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

2130 ADVANCED POP ROCK ENSEMBLE 2 Grades 9-12

This course is designed to meet the needs of students with at least 1 year experience playing in a rock band and on their chosen instrument. Students will need to have their own equipment available for class on a daily basis. The course will focus on performing, recording and producing music in a wide variety of popular and rock styles. Students will further explore the techniques and equipment used in the recording process. Success in the class depends on students working together to create a marketable product for live performances! This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: Teacher Recommendation needed

2150 INTRODUCTION TO MUSIC TECHNOLOGY 2 Grades 9-12

This course introduces students to the tools and techniques for effectively utilizing audio in the context of digital multimedia and the internet. Students will use computers for recording, editing and mixing digital audio. Specific software programs will be used to familiarize students with sequencing, notating and recording music. The students will integrate these programs into the creation of music projects for presentation in class.
This course addresses Whitman-Hanson Student Learning Expectations 1-6.

2160 MUSIC TECHNOLOGY II 2 Grades 10-12

For students who have completed Intro to Music Technology I, this class continues the study of software applications for creating music projects. This class will include the study of recording techniques and hands on experience in the fundamentals of live music. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: Successful completion of Introduction to Music Technology

2290 PAINTING MODERN ART 2 Grades 10-12

This course will be offered during the 2022-2023 school year.

This is a hands-on painting course that focuses on the innovations made to the field of painting as artists began to question the need for realism and began to experiment with the expressive qualities of both the subject and the materials. Students will draw inspiration from artists as diverse as El Greco, Picasso, Lichtenstein and Pollock. The course will focus on art movements that broke from traditional observation and realism in order to develop the more expressive and conceptual qualities of art. This course addresses Whitman-Hanson Student Learning Expectations 1-6. Please note that this elective is offered every other year.

Prerequisite: Successful completion of Art Foundations

2300 ART FOUNDATIONS 2 Grades 9-12

Art Foundations is the introductory offering in the Fine Arts Department. This course covers basic methods, materials and concepts unique to the visual arts and places a strong emphasis on the Elements and Principals of Design. Students will explore art as a means of expressing ideas and communicating effectively by completing hands-on projects and written responses. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

2310 ART WORKSHOP 2 Grades 9-12

This course will be offered during the 2022-2023 school year.

Art Workshop will take a non-traditional approach to design by exploring art forms through authentic, real world assignments that may include printmaking, collage, sculpture, mixed media and interior, textile, or fashion design. Students will gain and integrate design knowledge while exploring a variety art and design related fields of study. Students will work individually and in groups to identify and meet challenges in a creative and expressive manner. The course will emphasize effective communications skills, time management, teamwork and other qualities expected in the professional art environment. There will be a focus on ways that artists can communicate with and impact society and the community in a positive manner. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: Successful completion of Art Foundations

2320 DRAWING 2 Grades 10-12
This course will explore a variety of drawing processes, methods and materials through the review and analysis of professional drawings and illustrations. There will be a strong emphasis on developing observational skills and working from life. Students will explore and express their ideas by integrating knowledge learned in Art Foundations, analysis of artistic process and their own creative ability. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: Successful completion of Art Foundations or permission of instructor.

2330 PAINTING: SUBJECT, MEDIUM & TECHNIQUE 2 Grades 10-12
This course will explore a variety of painting techniques, subjects, and materials through the review and analysis of famous paintings and traditional concepts. Students will explore a variety of media such as watercolor, oil, and acrylic paint. They will express their ideas by integrating knowledge learned in Art Foundations, analysis or artistic process and their own creative ability. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: Successful completion of Art Foundations and Drawing

2340 CERAMICS I 2 Grades 10-12
This ceramics course will integrate knowledge of the artistic process with an emphasis on problem solving and self-expression. The course will focus on basic terms, techniques, and processes used to create functional ceramic pieces. Students will analyze the work of artisans from various cultures and identify their own abilities to use ceramics as a tool of social and civic value. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

2350 CERAMICS II– Mixed Media Sculpture 2 Grades 10-12
This course encourages the creative process and three-dimensional self-expression. Students will incorporate knowledge of ceramic technique and process gained in Ceramics I, with advanced study, and their own personal and creative interests. There will be a strong focus on clay as a sculptural material to be combined with other three dimensional media. Students may need to supply some materials based on their own creative choices. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: Successful completion of Ceramics I

2360 DIGITAL PHOTOGRAPHY I 2 Grades 10- 12
This course is designed to teach students basic photographic digital process and imaging. In the first half of the course through a variety of assignments, extensive instruction and practice in the technical and historical aspects of photography will be covered. Learning digital camera controls and computer programs such as Adobe PhotoShop will be explored. The second half will place emphasis on photography as a creative communications vehicle and as an art form demonstrating the application and understanding of elements of composition, lighting, and design. The class is open to all students who have a willingness to learn about, as well as do digital photography in a computer lab environment. Students are encouraged to have the use of their own digital camera. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

2380 INTRODUCTION TO COMPUTER GRAPHICS 2 Grades 9-12
Computer generated graphic design, typesetting, and image manipulation are becoming the industry standard in the business and design fields. Using currently available software, this course will provide an overview of the constantly changing technology. The computer graphics course will assign specific assignments in select areas including: Typography, font selection, logo design, illustration, image manipulation, and electronic layout. Many of the assignments are directed toward school and community related needs. Enrollment is open to any student willing to work in a computer lab environment. Class size is limited. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

2381 COMPUTER GRAPHICS II 2 Grades 10-12
This course is a progression of skills and concepts learned in Intro to Computer Graphics. Students will build on the basic design, technology and client/market criteria. Students will learn and utilize current technological programs and industry standards to use in real world applications. In and ever changing world where technology and industry evolve rapidly, our students will have the opportunity to build on their design and technological knowledge and apply critical thinking skills to develop solutions to a wide range of design problems.

2390 CREATIVE ILLUSTRATION AND CARTOONING 2 Grades 9-12
This course will apply the basic concepts of Art, with an emphasis on narrative art. Students will analyze the work of professional illustrators and cartoonists and explore their own ability to communicate and express themselves visually. The course assignments will recreate situations that would mirror the expectations placed on professional artists including deadlines, assigned criteria, the ability to problem solve, work as part of a team, as well as the process of drafting, revising and considering multiple solutions to an assignment. This course is open to all students who have a willingness to learn about as well as enjoy drawing and expressing their ideas creatively. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

2400 ADVANCED ART EXPLORATION 2 Grades 11-12
This full credit course is intended for advanced art students who wish to extend their exploration of art in preparation for art related education, career, or for personal growth. Students will consider art history, aesthetics, process and criticism as part of their course work. They will be encouraged to express themselves creatively, improve their technical skills and explore new and existing areas of interest. Emphasis will be placed on personal responsibility, time management, problem solving, multiple solutions, drafting and revising, exhibiting and civic responsibilities. Students must be committed to achieving accomplished, high quality artwork which will require more time than is allotted during class. They must have a proven dedication to the study of art, be self-motivated and able to work independently. Students with previous successful experience in this course may speak with the instructor about their options for further study. This course is recommended for anyone interested in developing a portfolio for college however it is not a requirement.

Prerequisite: It is strongly recommended that students earn a B- or above in Art Foundations, Drawing, Painting and one other Art Dept. Course, or permission of the instructor.

2440 ART OF MINDFULNESS 2 Grades 9-12
This class is intended for any person willing to open their mind to the power of art as a meditative means to relieve stress, a vehicle of self-analysis and a means to develop creativity and critical thinking skills. It is beneficial to both the artist and "non-artist". The focus will be on the artistic process and developing the inner artist within each of us. The class will involve quiet reflection, personal focus, open-minded acceptance and support of classmates during individual and group assignments. This course addresses Whitman-Hanson Student Learning Expectations 1-6. Please note that this elective is offered every other year.

WORLD LANGUAGES

Second language acquisition is an essential part of every student's education and exposes students not only to another language, but also to other cultures, literature and history. The World Languages program is designed to provide opportunities for students to develop proficiency in French or Spanish. The curriculum is a performance and proficiency-based curriculum designed to develop learners' communication and intercultural

competencies so that all students are able to communicate effectively through conversing, reading, and writing in a language other than English. These skills and competencies prepare learners to interact with people in our nation and around the world, as well as interpret and use information from global sources. Our vision is to empower students to connect second language learning to their own lives through real world application. As students advance their proficiency in speaking, reading, writing, and listening in the target language, they will become better prepared for life experiences in the ever-growing, interconnected, 21st-century world. After leaving our classrooms, students will have gained an appreciation for the target language and a respect for cultural similarities and differences.

World Languages courses receive Academic, Honors or, in some instances, Advanced Placement credit. (Honors credit is given where the student is either performing above grade level or has received the recommendation of his/her teacher and of the World Languages Curriculum Chair in recognition of his/her excellent academic performance in the prerequisite course(s). Advanced Placement credit is awarded to those students who, upon the recommendation of their teacher, the World Languages Curriculum Chair and their school counselor, complete a specific, predetermined curriculum at the highest level of the language sequence offered.

The Whitman-Hanson Regional High School Student Shall:

1. **Read, write and communicate effectively.**
2. **Utilize technologies appropriately and effectively**
3. **Apply critical thinking skills.**
4. **Explore and express ideas creatively.**
5. **Participate in learning both individually and collaboratively.**
6. **Demonstrate personal, social, and civic responsibility**

Parents and students should be aware that any of the World Languages Practicum courses as well as Honors, Advanced Placement and other advanced level courses---French, Spanish IV, Advanced Placement and beyond---may not be scheduled if sufficient numbers of students do not elect them.

Students will also have the opportunity to connect with the Spanish and French community through the Language Lab.

***Please see page 11 of the Program of Studies for the Global Awareness Certificate academic requirements.**

COURSE	**CREDITS**	**GRADE**

3000 FRENCH I Academic — **4** — **Grades 9-12**

This course will introduce and develop the skills needed to learn a second language: listening, speaking, reading and writing. Proficiency in listening comprehension, written expression, reading, and oral communication is emphasized through the use of a variety of authentic materials. Additionally, students listen and respond to the teacher, native speakers, primary sources, and to each other in order to hear correct spoken language and to practice pronunciation and intonation. Narratives and conversation with questions and answers are used to introduce students to new vocabulary and language structure. Students will practice the ability to express themselves on a broad range of topics with an emphasis on the culture of the target language. This course addresses Whitman-Hanson Student Learning Expectations 1, 2 & 5.

3020 FRENCH II Academic — **4** — **Grades 9-12**

In their second year of world language study, students continue to develop their oral and auditory skills while acquiring more vocabulary and intensifying their study of grammar in order to develop an enhanced ability to communicate. More attention is paid to the development of reading and writing skills. Students will increase their proficiency through a variety of activities including authentic texts, listening activities, formal and informal writing and presentations. Thematic materials and vocabulary will be introduced and applied through the year. The history and culture of the French-speaking world are examined in more detail. This course is conducted predominantly in the target language. This course addresses Whitman-Hanson Student Learning Expectations 1, 2 & 5.

Prerequisite: Successful completion of French I Academic.

3040 FRENCH II Honors 4 Grades 9-12

In their second year of world language study, students continue to develop their oral and auditory skills while acquiring more vocabulary and intensifying their study of grammar in order to develop an enhanced ability to communicate. More attention is paid to the development of reading and writing skills. Students will increase their proficiency through a variety of activities including authentic texts, listening activities, formal and informal writing and presentations. Thematic materials and vocabulary will be introduced and applied through the year. The history and culture of the French-speaking world are examined in more detail. This course is conducted predominantly in the target language. This course addresses Whitman-Hanson Student Learning Expectations 1, 2 & 5.

***The honors course is differentiated from the academic by the amount and difficulty of reading, writing, and oral assignments. Honors students will be expected to master material at a faster pace.**

Prerequisite: It is strongly recommended that students earn a grade of A or B in French I Academic or recommendation of the World Languages Curriculum Chair.

3100 FRENCH III Academic 4 Grades 10-12

In their third year of world language study, students will demonstrate an intermediate degree of proficiency in understanding and speaking the French language. Through daily class discussions, partner and group conversations, and presentations, they practice and further develop their vocabulary and oral expression. Reading assignments are taken from current newspapers, magazines, and short stories, as well as from other authentic materials. The finer points of grammar are studied, and writing skills are developed through paragraphs, informal letters, summaries of readings, and short compositions. The culture and civilization of the French-speaking world are studied through various texts and independent assignments. This course addresses Whitman-Hanson Student Learning Expectations 1, 2 & 5.

Prerequisite: Successful completion of French II Academic or teacher recommendation

3120 FRENCH III Honors 4 Grades 10-12

In their third year of world language study, students will demonstrate an intermediate degree of proficiency in understanding and speaking the French language. Through daily class discussions, partner and group conversations, and presentations, they practice and further develop their vocabulary and oral expression. Reading assignments are taken from current newspapers, magazines, and short stories, as well as from other authentic materials. The finer points of grammar are studied, and writing skills are developed through paragraphs, informal letters, summaries of readings, and short compositions. The culture and civilization of the French-speaking world are studied through various texts and independent assignments. This course addresses Whitman-Hanson Student Learning Expectations 1, 2 & 5.

***The honors course is differentiated from the academic by the amount and difficulty of reading, writing, and oral assignments. Honors students will be expected to master material at a faster pace.**

Prerequisite: It is strongly recommended that students earn a grade of B+ in French II Honors or the recommendation of the World Languages Curriculum Chair.

3200 FRENCH IV Honors 4 Grades 10-12

This course will accommodate students from both French III A and French III H. This course endeavors to develop fluency and flexibility in both written and spoken French. Listening skills continue to develop in the language through a variety of audio materials. Self-expression in speaking is emphasized through class discussions and responses to literary selections. Writing skills are further developed through the writing of journals, reflections, reports and critical essays based on course readings. This course addresses Whitman-Hanson Student Learning Expectations 1, 2 & 5.

***The honors course is differentiated from the academic by the amount and difficulty of reading, writing, and oral assignments. Honors students will be expected to master material at a faster pace.**

Prerequisite: It is strongly recommended that students earn a grade of B+ in French III Academic, French III Honors or teacher recommendation.

3250 FRENCH PRACTICUM 2 Grades 10-12

See description on Page 25.

3300 SPANISH I Academic 4 Grades 9-12
This course will introduce and develop the skills needed to learn a second language: listening, speaking, reading and writing. Proficiency in listening comprehension, written expression, reading, and oral communication is emphasized through the use of a variety of authentic materials. Additionally, students listen and respond to the teacher, natice speakers, primary sources, and to each other in order to hear correct spoken language and to practice pronunciation and intonation. Narratives and conversation with questions and answers are used to introduce students to new vocabulary and language structure. Students will practice the ability to express themselves on a broad range of topics with an emphasis on the culture of the target language. This course addresses Whitman-Hanson Student Learning Expectations 1, 2 & 5.

3350 SPANISH II Academic 4 Grades 9-12
In their second year of world language study, students continue to develop their oral and auditory skills while acquiring more vocabulary and intensifying their study of grammar in order to develop an enhanced ability to communicate. More attention is paid to the development of reading and writing skills. Students will increase their proficiency through a variety of activities including authentic texts, listening activities, formal and informal writing and presentations. Thematic materials and vocabulary will be introduced and applied through the year. The history and culture of the Spanish-speaking world are examined in more detail. This course is conducted predominantly in the target language. This course addresses Whitman-Hanson Student Learning Expectations 1, 2 & 5.

Prerequisite: Successful completion of Spanish I Academic

3370 SPANISH II Honors 4 Grades 9-12
In their second year of world language study, students continue to develop their oral and auditory skills while acquiring more vocabulary and intensifying their study of grammar in order to develop an enhanced ability to communicate. More attention is paid to the development of reading and writing skills. Students will increase their proficiency through a variety of activities including authentic texts, listening activities, formal and informal writing and presentations. Thematic materials and vocabulary will be introduced and applied through the year. The history and culture of the Spanish-speaking world are examined in more detail. This course is conducted predominantly in the target language.
***The honors course is differentiated from the academic by the amount and difficulty of reading, writing, and oral assignments. Honors students will be expected to master material at a faster pace.**

Prerequisite: It is strongly recommended that students earn a grade of A or B in Spanish I Academic and recommendation of teacher or World Languages Curriculum Chair.

3400 SPANISH III Academic 4 Grades 10-12
In their third year of world language study, students will demonstrate an intermediate degree of proficiency in understanding and speaking the Spanish language. Through daily class discussions, partner and group conversations, and presentations, they practice and further develop their vocabulary and oral expression. Reading assignments are taken from current newspapers, magazines, and short stories, as well as from other authentic materials. The finer points of grammar are studied, and writing skills are developed through paragraphs, informal letters, summaries of readings, and short compositions. The culture and civilization of the Spanish-speaking world are studied through various texts and independent assignments. This course addresses Whitman-Hanson Student Learning Expectations 1, 2 & 5.

Prerequisite: Successful completion of Spanish II Academic or teacher recommendation.

3420 SPANISH III Honors 4 Grades 10-12
In their third year of world language study, students will demonstrate an intermediate degree of proficiency in understanding and speaking the Spanish language. Through daily class discussions, partner and group conversations, and presentations, they practice and further develop their vocabulary and oral expression. Reading assignments are taken from current newspapers, magazines, and short stories, as well as from other authentic materials. The finer points of grammar are studied, and writing skills are developed through paragraphs, informal letters, summaries of readings, and short compositions. The culture and civilization of the

Spanish-speaking world are studied through various texts and independent assignments. This course addresses Whitman-Hanson Student Learning Expectations 1, 2 & 5.
***The honors course is differentiated from the academic by the amount and difficulty of reading, writing, and oral assignments. Honors students will be expected to master material at a faster pace.**

Prerequisite: It is strongly recommended that students earn a grade of B+ in Spanish II Honors or World Languages Curriculum Chair recommendation.

3610 SPANISH IV Academic 4 Grades 10-12
This course endeavors to develop fluency and flexibility in both written and spoken Spanish. Listening skills continue to develop in the language through a variety of audio materials. Self-expression in speaking is emphasized through class discussions and responses to literary selections. Writing skills are further developed through the writing of journals, reflections, reports and critical essays based on course readings. This course addresses Whitman-Hanson Student Learning Expectations 1, 2 & 5.

Prerequisite: Successful completion of Spanish III Academic or teacher recommendation.

3450 SPANISH IV Honors 4 Grades 10-12
This course endeavors to develop fluency and flexibility in both written and spoken Spanish. Listening skills continue to develop in the language through a variety of audio materials. Self-expression in speaking is emphasized through class discussions and responses to literary selections. Writing skills are further developed through the writing of journals, reflections, reports and critical essays based on course readings. This course addresses Whitman-Hanson Student Learning Expectations 1, 2 & 5.
***The honors course is differentiated from the academic by the amount and difficulty of reading, writing, and oral assignments. Honors students will be expected to master material at a faster pace.**

Prerequisite: It is strongly recommended that students earn a grade of B+ in Spanish III Honors or World Languages Curriculum Chair recommendation.

3500 Advanced Placement SPANISH 4 Grades 11-12
This course is designed for the student who has successfully completed Spanish IV (Honors or Academic) and who plans on taking the Spanish Advanced Placement Examination for college credit. The course is the equivalent of a college level course in advanced composition and conversation. The course helps to prepare students to demonstrate their level of Spanish proficiency across three communicative modes (Interpersonal [interactive communication], Interpretive [receptive communication], and Presentational [productive communication]), and the five goal areas outlined in the *Standards for Foreign Language Learning in the 21st Century* (Communication, Cultures, Connections, Comparisons, and Communities). The student will receive training in advanced level listening, speaking, reading and writing skills. This course addresses Whitman-Hanson Student Learning Expectations 1, 2 & 5.

Prerequisite: Spanish IV Honors or Academic or teacher recommendation.

3250 FRENCH PRACTICUM 2 Grades 10-12

3600 SPANISH PRACTICUM 2 Grades 10-12
These two-credit courses are intended for students who have successfully completed a minimum of two years of a World Language sequence, who are interested in becoming teachers or who enjoy working with young children and would like to use their language skills to teach basic vocabulary and communication to elementary school students within the Whitman-Hanson Regional School District. Students in this course will work with their World Language teacher at the High School approximately two periods each week to prepare materials and instructional strategies which they will need to teach the language to elementary students for the remaining three days of the week. Practicum students will work cooperatively with the Elementary classroom teacher whose class they are assigned to, under the supervision of their High School teacher and they will receive assistance from them/be monitored on a regular basis. This course does not count as one of the "Required Electives" which Whitman-Hanson students need for graduation and cannot be used to replace formal study of a World Language for college admission. However, students may sign up for this course one or more times during their high school experience and will receive two credits each semester the course is elected. Students are

expected to provide their own transportation to/from the elementary school assigned. These courses address Whitman-Hanson Student Learning Expectations 1, 2 & 5.

Prerequisite: Successful completion of I and II level courses in the appropriate World Language and the recommendation of their World Language teacher and the World Languages Curriculum Chair.

MATHEMATICS

The Whitman-Hanson Regional High School mathematics program offers varying pathways designed to provide every student with access to high-level mathematics and prepare them for post-secondary success based upon their goals and interests. Our 9th grade Geometry and 10th grade Algebra courses provide a strong foundation for advanced coursework during junior and senior year and are designed to prepare all students for the new computer-based, next-generation 10th Grade Math MCAS. All of our 11th and 12th grade courses provide students with the mathematical content and skills to ensure that they will be career and college ready. Successful completion of four years of mathematics is necessary to satisfy graduation requirements.

Beyond the courses and pathways offered, the WHRHS mathematics program strives to develop students' critical thinking, reasoning, problem-solving, and interpersonal skills and to instill in students the importance of grit, perseverance, and a confidence in their own ability to improve and achieve as a learner. Furthermore, there is a shared belief among the mathematics teachers at WHRHS that all students can learn and understand advanced mathematical concepts if provided with appropriate support and are willing to demonstrate a concerted effort.

The WHRHS Mathematics Department is committed to providing students with educational experiences that enable them to pursue mastery of the following Whitman-Hanson student expectations:

(1) Read, write and communicate effectively
(2) Utilize technologies appropriately and effectively.
(3) Apply critical thinking skills.
(4) Explore and express ideas creatively.
(5) Participate in learning both individually and collaboratively.
(6) Demonstrate personal, social, and civic responsibility.

2021-2022 Whitman-Hanson Regional High School
Mathematics Course Offerings

<table>
<tr><th>Course Type</th><th>Grade 9</th><th>Grade 10</th><th>Grade 11</th><th>GRADE 12</th></tr>
<tr><td rowspan="4">Core</td><td rowspan="2">Geometry
Academic
(4260)</td><td rowspan="2">Algebra I
Academic
(4050)</td><td>Advanced Algebra with Financial Apps Academic</td><td>Algebra II
Academic
(4300)</td></tr>
<tr><td>Algebra II
Academic
(4300)</td><td rowspan="2">Applications of Advanced Algebra (Grade 12)
(4574)

Pre-Calculus
Academic
(4400)

Statistics
Academic
(4601)</td></tr>
<tr><td>Geometry
Honors
(4270)</td><td>Algebra I & II
Honors
(4290)</td><td>Algebra II/
Pre-Calculus
Honors
(4291)</td></tr>
<tr><td></td><td></td><td></td><td>Honors Calculus
(4450)

AP Calculus AB
(4500)</td></tr>
<tr><td>Elective</td><td></td><td colspan="3">AP Statistics (4670)</td></tr>
</table>

COURSE **CREDITS** **GRADE**

4050 ALGEBRA I Academic **4** **Grade 10**
This course formalizes and extends the mathematics that students learn in middle school by focusing on four critical areas: (1) comparing and contrasting linear and exponential relationships; (2) analyze, solve, and apply quadratic functions; (3) extend the laws of exponents to rational exponents involving square and cube roots; and (4) apply linear models to data that exhibit a linear trend. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

4260 GEOMETRY Acade **4** **Grade 9**
This course formalizes and extends the mathematics that students learn in middle school by focusing on six critical areas: (1) triangle congruence based on rigid motions; (2) triangle similarity based on dilations and proportional reasoning; (3) deriving formulas for area, circumference, and volume; (4) applying the Pythagorean Theorem to the coordinate plane; (5) proving basic geometric theorems; and (6) probability. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

4270 GEOMETRY Honors **4** **Grade 9**
This course addresses the same critical areas as *4260 GEOMETRY Academic*, but with greater depth and at a faster pace. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: Prerequisite: Recommendation by the 8th grade teacher is strongly suggested to ensure student success in this course.

4290 ALGEBRA I & II Honors **4** **Grade 10**
This course and *4291 ALGEBRA II/PRE-CALCULUS Honors* comprise an accelerated pathway in 10th and 11th grade to enable students who excel in math and plan to pursue a career in S.T.E.M. after high school to take calculus in senior year. This course addresses all the critical areas listed for *4050 ALGEBRA I Academic,* as well as some of the critical areas listed for *4300 ALGEBRA II Academic.* To ensure all content is satisfied in this accelerated pathway, students will be required to complete a take-home assignment during each semester. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: A grade of A- or better in 4260 GEOMETRY Academic or B- or better in 4270 GEOMETRY Honors is strongly suggested to ensure student success in this course.

4291 ALGEBRA II/PRE-CALCULUS Honors **4** **Grade 11**
This course and *4290 ALGEBRA I & II Honors* comprise an accelerated pathway in 10th and 11th grade to enable students who excel in math and plan to pursue a STEM-related field in college to take calculus in senior year. This course addresses the remaining critical areas listed for *4300 ALGEBRA II Academic* and those listed for *4350 PRE-CALCULUS* Academic. To ensure all content is satisfied in this accelerated pathway, students will be required to complete a take-home assignment during each semester. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: A grade of B- or better in 4290 ALGEBRA I & II Honors is strongly suggested to ensure student success in this course.

4300 ALGEBRA II Academic **4** **Grade 11**
This course builds on the work students did in Algebra I with linear, quadratic, and exponential functions by focusing on four critical areas: (1) operations with rational expressions; (2) trigonometric functions; (3) modeling with a variety of functions; and (4) data collection and analysis. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: A grade of B- or better in 4050 ALGEBRA I Academic is strongly suggested to ensure student success in this course.

4350 PRE-CALCULUS Academic **4** **Grade 11**

This course prepares students for the study of calculus by combining trigonometric, geometric, and algebraic concepts, as well as by strengthening students' conceptual understanding of mathematical problems through reasoning. Students should enroll in this course who meet the prerequisite and plan to pursue a career in S.T.E.M., business, or pharmacy after high school. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: A grade of B- or better in 4300 ALGEBRA II Academic is strongly suggested to ensure student success in this course.

4450 CALCULUS Honors 4 Grade 12
This course provides students with an introduction to the study of calculus by applying the concepts of limits, continuity, differentiation, and integration to various functions. Applications to related rates, optimization, area and volume of surfaces of revolution, and differential equations are also introduced. Students should enroll in this course who meet the prerequisite and plan to pursue a career in S.T.E.M., business, or pharmacy after high school. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: A grade of C- or better in 4400 PRE-CALCULUS Honors is strongly suggested to ensure student success in this course.

4500 Advanced Placement CALCULUS AB 4 Grade 12
This course aligns to the College Board's AP Calculus AB Curriculum Framework and addresses the three major concepts in the study of calculus in a variety of contexts: (1) limits; (2) derivatives; and (3) integrals and the Fundamental Theorem of Calculus. This course is intended for students who meet the prerequisite and plan to pursue a career in S.T.E.M., business, or pharmacy after high school. Students enrolled in this course are expected to take the Advanced Placement Calculus AB Exam. Topics include limits and continuity, differential calculus and its applications, integral calculus and its applications along with solving differential equations and slope fields. This course addresses Whitman-Hanson Student Learning Expectations 1- 6.

Prerequisite: A grade of B- or better in 4291 ALGEBRA II/PRECALCULUS Honors is strongly suggested to ensure student success in this course.

4573 ADVANCED ALGEBRA W/ FINANCIAL APPLICATIONS Academic 4 Grade 11
This course reinforces advanced mathematical concepts through a variety of real-world applications, including discretionary expenses, banking, credit and loans, the stock market, and home and auto purchasing. Incoming 11th grade students who have successfully completed *4050 ALGEBRA I Academic*, but feel they need to review key concepts using real world problems to connect ideas should enroll in this course. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: To enroll in this course, students must be entering grade 11 AND be recommended by their mathematics teacher (or receive permission from the Math Curriculum Chair).

4574 APPLICATIONS OF ADVANCED ALGEBRA Academic 4 Grade 12
This course is designed to help students make sense of abstract mathematics that they have learned throughout high school. This course reinforces advanced mathematical concepts through a variety of real-world applications, including civics, economics, finance and other applicable topics that directly affect our world today. Incoming 12th grade students who have successfully completed 4300 ALGEBRA II Academic, but feel they need a more concrete approach to learning mathematics should enroll in this course.

Prerequisite: To enroll in this course, students must be entering grade 12 AND be recommended by their mathematics teacher (or receive permission from the Math Curriculum Chair).

4600 STATISTICS-Academic 4 Grade 12
This course provides students with an introduction to the study of statistics by using various methods of statistical analyses to make better sense of the real world by providing students opportunities to explore and display real data, as well as to determine the probability of events. This course also investigates methods for displaying and predicting data, expressing measures of center and dispersion, and working with normal distributions. Students should enroll in this course who meet the prerequisite and plan to pursue a career in

health science, social science, liberal arts, or criminal justice after high school. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: Students should have successfully completed Algebra II.

4670 Advanced Placement STATISTICS 4 Grades 10-12
This course aligns to the College Board's AP Statistics Curriculum Framework and addresses the four major concepts in the study of statistics: (1) exploratory analysis of data; (2) planning and conducting a study; (3) probability; and (4) statistical inference. This course is intended for students who meet the prerequisite and plan to pursue a career in health science, social science, liberal arts, or criminal justice after high school. Students who excel in math and plan to pursue a career in S.T.E.M. after high school should strongly consider taking this course as a second math course during 10th, 11th, or 12th grade. Students enrolled in this course are expected to take the Advanced Placement Statistics Exam. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: Students enrolled in an Honors mathematics course may take this course as an elective during grade 10-12 or may take it as their sole mathematics course during grade 12. All other students who would like to enroll may be recommended by their mathematics teacher (or receive permission from the Math Curriculum Chair).

COMPUTER SCIENCE

Credits earned in computer science courses DO NOT satisfy the graduation requirements in mathematics. They will however satisfy the graduation requirement for Computer Literacy.

COURSE CREDITS GRADE

4699 INTRODUCTION TO COMPUTER PROGRAMING 2 Grades 9-12
This is a semester course designed to introduce students to computer programming with the JavaScript. No prior knowledge of computing is assumed. Students will learn to program a computer to aid in the solution of various problems, data manipulation, graphics, and simple programming commands. Attention will be given to declaration/assignment of variables, methods, conditional statements, loops, and storage with different data types. The completion of several independent projects will be required. This course is a prerequisite for AP Computer Science A (unless waived by the Math Curriculum Chair). This course addresses Whitman-Hanson Student Learning Expectations 1-6.

4700 Advanced Placement COMPUTER SCIENCE A 4 Grades 10-12
This course aligns to the College Board's AP Computer Science A Curriculum Framework. Through the use of algorithms and good programming techniques, students will write logically structured, well-documented computer programs. Attention will be given to input/output procedures, program annotation, algorithms, and data types and structures. Major topics will include computer systems, objects and primitive data, program statements, writing classes, working with applets, enhancing classes, arrays, and inheritance. Students will work independently and/or cooperatively on varied assignments and projects. This course is designed for students who have a strong interest in computer science and plan to pursue a career in S.T.E.M. after high school. Students enrolled in this course are expected to take the AP Computer Science A Exam. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: Students should have a strong interest in computer science and have taken 4699 INTRODUCTION TO COMPUTER PROGRAMING (or received permission from the Math Curriculum Chair).

CONSUMER SCIENCE

The Consumer Science program offers students career and life skill learning opportunities. Practical applications of math, reading, science, and social science skills are utilized to prepare students for careers and independent living. Skills include: selecting, storing, and preparing foods; evaluating food fads and diets; and

interpreting food labels. Each of the Consumer Science courses present interdisciplinary challenges and provide opportunities for the incorporation of the WHRHS Students Expectations within the curriculum.
The Student Expectations include the ability to:

(1) read, write and communicate effectively.
(2) utilize technologies appropriately and effectively mathematics.
(3) apply critical thinking skills.
(4) explore and express ideas creatively.
(5) participate in learning both individually and collaboratively.
(6) demonstrate personal, social, and civic responsibility.

These expectations shall be referred to by number in the course descriptions that follow.

COURSE	CREDITS	GRADE

5000 INTRO TO CULINARY ARTS 2 Grades 9-12
This is an introductory course in basic food preparation. Kitchen equipment and safety, safe food handling, correct measuring techniques, cooking terms, following simple recipes, basics of table setting, proper manners, nutrition and the food pyramid, as well as units on quick breads, yeast breads, cookies, breakfast foods, fruit, and vegetables are also explored. This course provides basic life skills for all students who will be responsible for purchasing and preparing their own food in the near future. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

5020 CULINARY AND RESTAURANT II 2 Grades 10-12
Students at this level will explore more advanced management skills and responsibilities. Units of study will include: soups and sauces; sandwiches; meats; poultry; desserts; and assorted baked goods. Students will be expected to assist in running the school restaurant (Courtyard Cafe). This course addresses Whitman-Hanson Student Learning Expectations 1-6.

BUSINESS AND TECHNOLOGY

Business and Technology Education is a road to the future. The Business and Technology curriculum is designed to provide students with the opportunity to develop a range of business and technology skills necessary to achieve their career goals, prepare for their futures and become informed consumers and investors. These courses provide students with real and relevant skills including: critical and creative thinking, problem solving, team building, entrepreneurial, organizational and mechanical reasoning using hands-on, real world application. The classes offered provide exciting and challenging opportunities and serve as stepping-stones for students continuing their education after high school or entering the workforce.

The Business Education Department believes in an educational experience that reflects the needs of the workplace. The "Partners in Business" Internship Program exposes the student to all areas of the workplace. Employees from participating businesses serve as mentors and assist each student in learning skills and understanding the work environment. Through service projects, students become actively involved in their community, learn how important their personal efforts can be, and apply academic skills to a real-world situation.

Each of the business education offerings present interdisciplinary challenges and provide opportunities for the incorporation of the student's expectations within the curriculum. The student expectations include the ability to (1) Read, write, and communicate effectively; (2) Use technologies effectively; (3) Apply critical thinking skills to solve problems; (4) Creatively explore and express ideas; (5) Participate in learning both individually and collaboratively; (6) Demonstrate personal, social, and civic responsibility. These expectations shall be referred to by number in the course descriptions that follow.

COURSE	CREDITS	GRADE

5550 WEB PAGE DEVELOPMENT Academic 2 Grades 11-12

This project-based course will teach students the fundamentals of web page construction utilizing a modern WYSIWYG editor. Students will be presented organizational and page management concepts that enhance the final project. Emphasis will be placed on utilizing personal skills to develop an effective approach to visual communication and a means to attain it in this electronic medium. Students will be introduced to the Microsoft Expression Web authoring tool to effectively integrate images, sounds and text for efficient web site display. Other graphic programs will be utilized as needed to enhance the use of images and graphics in web page construction. This course may be used to fulfill 2.0 credits of a student's technology credits. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

5560 COMPUTER AIDED DESIGN (CAD) 2 Grades 9-12
This course will better prepare our students for an ever changing, technological world and to meet Massachusetts Technology Standards and Expectations. Students will learn specialized tools and demonstrate knowledge by completing projects through several stages: planning, designing, and printing engineering drawings. This course will introduce CAD concepts including: extractions, 3-D geometry, pushing-pulling, mirroring, arrays and adding text using Google SketchUP. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

5561 ADVANCED COMPUTER AIDED DESIGN 2 Grades 10-12
This course is offered to students who have taken Computer Aided Design (CAD) with a passing grade of C or better and have learned the basics of Sketch Up the 3-Dimensional modeling software. Advanced CAD will allow students to build knowledge of design and drawing on the computer. Using state of the art 3D modeling software, students will design, draw, and produce advanced models that solve relevant engineering questions. Students will explore the world of rapid prototyping through the use of 3-Dimensional printing. Advanced CAD class will prepare students for college level courses or entry level positions in the field of CAD or engineering in the working world. This course provides students with a more complex understanding into 2-dimensional and 3-dimensional Computer-Aided Design (CAD) and modeling with a focus on construction- and architecture-specific applications. Students will learn how to use industry-leading CAD software programs (Autodesk's 123 Design and Sketch Up) to model construction projects, and then create and distribute basic, industry-standard architectural drawings. Additionally, this course teaches students an in-depth knowledge and understanding and using 3D printer technology. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

Prerequisite: Computer Aided Design

5600 FINANCIAL LITERACY 2 Grades 9-12
Are you looking for independence? Do you want to be able to live on your own one day? This course is designed to educate students about sound money management skills and the financial planning process. It will help students begin to recognize and develop the positive behaviors that are necessary to attaining financial maturity. Students will investigate daily life survival skills and wise money management in today's consumer world. Students will establish and research personal goals and career choices for future planning, banking, budgeting, and credit. Effective allocation of money for credit, savings, investing, and everyday living expenses will be explored. Financial Literacy is a graduation requirement and should be used to fulfill 2.0 credits of a student's technology requirements. This course addresses Whitman-Hanson Student Learning Expectations 1-6. This course is a graduation requirement of the Class of 2024 and beyond.

5610 INVESTING YOUR MONEY Academic 2 Grades 10-12
This course is designed to teach students the basics of investing. The course focuses on making your money work for you. Students will learn different investment options and techniques to "make their money grow" including, but not limited to, IRAs, 401k plans, stocks, bonds and mutual funds. The time value of money, diversification, the importance of goals and the relationship between risk and reward will also be included. Students will learn to identify research and track different investment options over the course of the quarter using "real life" investment simulations. This course may be used to fulfill 2.0 credits of a student's technology requirements. This course meets Whitman-Hanson Student Learning Expectations 1-6.

5630 ENTREPRENEURSHIP 2 Grades 10-12
This course will prepare students to start, operate, and maintain a successful business. Students will analyze markets, explore sales and advertising strategies, learn how to obtain capital (money) to start a business, study

modern management techniques and discuss personnel management issues. Students create a business and produce a detailed business plan as a final project. Students in this class will also participate in DECA competitive events and conferences. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

5640 BUSINESS LAW I Academic 2 Grades 10-12
How are people "making millions" by suing each other? How do you know that an agreement is "legal"? This course will review the legal system and focus on tort and contract law as well as ethics in law. Students will demonstrate personal, social and civic responsibility by participating in a Student Police Academy in cooperation with the local police department. Speakers in the law field and field trips are included. This course is designed to prepare students to recognize and understand how the law works in their community as well as inform students of their legal obligations and rights. Students may also compete in DECA competitions and conferences. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

5700 ACCOUNTING I Academic 2 Grades 10-12
Accounting is the language of business. In this course, students will become familiar with common accounting terminology and how to use this terminology to tell the story of a business; or read the story of a business. This course introduces students to the concept of generally accepted accounting principles. Students will learn about the accounting cycle and accounting reports. The study of accounting prepares students who plan to further their education in the business field. Technology is utilized daily. This course offers the student a chance to compete with DECA. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

5810 INTERNSHIP Academic 2 Grades 11-12
This course is designed to give eligible juniors and seniors an opportunity to explore careers and leadership styles. Students will gain exposure to workplace skills not easily obtained in a classroom setting through a strategically selected internship aligned with future career ambitions. Students are expected to actively participate in securing their internship placement and volunteer a minimum of 4 hours per week. Students will apply what is learned in class while attending their internship and report back to class on their experiences. These work-based learning situations are intended to support the student's academic program by providing transferable skills that will expand their career and educational options. Students have the opportunity to integrate learning with the needs of local employers by participating in an unpaid internship at the worksite. Transportation to/from the internship site is required and is the responsibility of the student/family. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

5900 MARKETING 2 Grades 9-12
In this course students will learn and apply the foundations and functions of marketing, management and learn to make rational economic decisions. Emphasis is placed on merchandising, new product development and advertising techniques. This class also supports the DECA program and students will have the opportunity to join DECA. Students will enhance their oral and written communications as well as computer skills. This course addresses Whitman-Hanson Student Learning Expectations 1-6.

5921 VISUAL MERCHANDISING 2 Grades 10-12
This course is a collaboration between Business Retailing and Digital Photography. Visual Merchandising is a project-oriented class based on real world experiences: students who represent a business (The Panther's Den School Store) and/or serve as a vendor that could be hired by that business (Digital Photographers, Graphic Designer, Layout Specialist). Students will be selecting and designing the merchandise to be sold in the school store, as well as the marketing materials used to drive in customers. This course will allow students to gain skills and experience in the areas of Business and Visual Arts while bringing the two together.

5922 DIGITAL CITIZENSHIP 2 Grades 10-12
This course will demonstrate the use of digital resources and media, as well as social communication platforms. It strives to incorporate these tools in a creative, safe, and collaborative environment. Students will use the high school resources as well as BYOD. The course also will include a discussion of universal design, legal and ethical concerns for our digital natives. The format of the course will be case studies, projects and discussions.

5923 HOSPITALITY MARKETING 2 Grades 10-12
The field of hospitality is rapidly growing. Many colleges, universities, and high schools offer specialization in

hospitality marketing. Discussed will be topics such as strategies in hotel management and location, types of lodging, key players and services, information and risk management. This course will give you a perspective on how marketing shapes the future of the hospitality industry and possible career opportunities. Learn how marketing functions are applied to the hospitality industry. The basic functions such as product/service management, product and service management, marketing-information management, financing, pricing, and promotion will be explored as it relates to hospitality. By presenting key marketing concepts using real examples learning becomes easier and more permanent. Concepts in the book will be reinforced by using the Virtual Business Hotel online simulation program.

5924 SPORTS & ENTERTAINMENT MARKETING 2 Grades 10-12
The field of sports and entertainment marketing is rapidly growing. Many colleges, universities, and high schools offer specialization in sports and entertainment marketing. Sports & Entertainment marketing careers are currently in high demand. More and more students are moving into these careers and seeking out colleges that offer these programs. Sports & Entertainment are important parts of our modern economy and we should help students determine if this is the right career choice for them. Fans and companies spend billions of dollars each year on sports. Entertainment is one of the largest exports from the US to the rest of the world. In this course students will explore core standards of marketing and be able to take the first step into the world of sports and entertainment marketing. Learn how marketing functions are applied to S&E. The basic functions such as product/service management, distribution, selling, marketing-information management, financing, pricing, and promotion will be explored. Students will learn how to relate each of the functions listed above to the S&E industry. By presenting key marketing concepts using real examples from sports and entertainment, learning becomes easier and more permanent. Concepts in the book will be reinforced by using the Virtual Business Sports & Entertainment online simulation program.

4800 Advanced Placement COMPUTER SCIENCE PRINCIPLES 4 Grades 10-12
This course introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world. No prior knowledge of computing is assumed. With a unique focus on creative problem solving and real-world applications, this course prepares students for college and career by providing them opportunities to collaborate and pursue interests collectively.

Prerequisite: Students should have demonstrated a high level of maturity, creativity, and a willingness to work with others.

HISTORY AND SOCIAL STUDIES

History and Social Studies education at Whitman-Hanson Regional High School is offered in mutually supportive academic programs featuring the following core subject areas: World History and United States History. There are Behavioral Science courses as well as a number of other elective offerings. There is a four year Honors/Advanced Placement Program for those students who desire work at this academic level.

All of the courses in the Department are designed to enhance the academic, moral and civic growth of each student, while fostering an appreciation of our democratic heritage and an awareness of America's role in an interdependent world community. Across the curriculum special emphasis is placed upon building and reinforcing writing skills and a capacity for critical and creative thinking. It is the Department's intent to prepare each student to become an active and effective citizen - one who has acquired a deep knowledge of both the tools of self-government as well as the local, state, national, and world history that results in sound judgment and informed insights about the human condition.

Whitman–Hanson students are required to earn twelve credits in History/Social Studies in order to satisfy graduation requirements. The History/Social Studies core course sequence includes: Modern World History, United States History I, United States History II, and electives. All students need to acquire four credits in both United States History I and United States History II in order to graduate.

WORLD HISTORY:

At least four credits of Modern World History (Academic or Honors) are scheduled in the freshman year. The following electives support World History:

Current Issues: America and the World **Academic**
Global Studies Independent Research **Academic or Honors**
AP Modern European History
September 11 and the War on Terror **Academic**

***Please see page 11 of the Program of Studies for the Global Awareness Certificate academic requirements.**

UNITED STATES HISTORY:

All students not enrolled in the Advanced Placement program are required to take United States History I during their Sophomore year and United States History II in their Junior year. Students are required to pass United States History I and United States History II.

The following electives support the United States History program:

Assassinations and their Impact on American Political History **Academic**
Civil War Showdown: North vs. South 1861 – 1865 **Academic**
World War I: Impact in the 20th Century **Academic**
World War II: Impact in the 20th Century **Academic**
The Vietnam War: A Crisis of Conscience **Academic**
Current Issues: America and the World **Academic**
September 11 and the War on Terror **Academic**

BEHAVIORAL SCIENCE ELECTIVES:

Psychology **Academic**
Advanced Placement Psychology
Sociology **Academic**

HONORS/ADVANCED PLACEMENT PROGRAM

Students have the opportunity to take part in the Honors/AP program throughout their entire four years. The initial program offering for ninth graders is Honors Modern World History. More choices arrive during the students' Sophomore year when they can opt to stay with their Honors course and select Honors United States History I. Another choice would be to take a more rigorous course of study by moving on to Advanced Placement European History. Thus, for the Grade 11 Honors, they can select AP United States History. In their Junior or Senior years students are encouraged to take AP Psychology, AP US Government & Politics, or select courses from our Elective program. The prerequisites for all these courses are listed for each course description.

There is no "tracking" in the History and Social Studies Department. Students who find success or difficulty at any given level are free to move up or down accordingly. That said, there are common paths that many students take that are often helpful to see when planning out an academic schedule:

Grade	Academic Level	Honors Level	Advanced Placement Level
9	Modern World History (A)	Modern World History (H)	
10	United States History I (A) Electives	United States History I (H) Electives	AP European History Electives
11	United States History II (A) Electives	United States History II(H) Electives	AP United States History Electives
12	Electives	Electives	AP Psychology AP US Gov. & Politics Electives

COURSE **CREDITS** **GRADE**

6030 MODERN WORLD HISTORY Academic **4** **Grade 9**

This course provides a comprehensive examination of the political, cultural, social, and economic development of Western civilization and the world from approximately the 15th century to the present. Students in this course will study the modern history of Europe, China and Asia, Africa, and Latin America, as well as the interactions between these world regions. Throughout the course, students will continue to build their writing skills and study skills. This course addresses Whitman-Hanson Student Learning Expectations 1, 3-6.

6050 MODERN WORLD HISTORY Honors 4 Grade 9

This course provides a comprehensive examination of the political, cultural, social, and economic development of Western civilization and the world from approximately the 15th century to the present. Students in this course will study the modern history of Europe, China and Asia, Africa, and Latin America, as well as the interactions between these world regions. This course is designed for highly motivated students who enjoy learning about the people, cultures, and events that have shaped the modern world. The honors level is reading and writing intensive, and students will be expected to critically engage with the content of the course. Students will also be expected to complete a historical research paper. This course addresses Whitman-Hanson Student Learning Expectations 1, 3-6.

Prerequisite: Grade 8 teacher recommendation is strongly suggested.

6100 UNITED STATES HISTORY I Academic 4 Grade 10

US History I traces the development of American society from the Colonial era through Reconstruction, from the generation that created the world's first modern democracy to the generation that tried to tear it apart. Emphasis will be placed on the tremendous social, political, and cultural changes the nation experienced during the first century of its development. Particular focus will be placed on the founding documents and sweeping expansion of the size and scope of the nation and its citizens, on what America was and what it meant to be an American, as those things changed drastically. Academic US History students will analyze key historical documents and explore the perspectives of the American citizens who lived through this challenging era, to see what connections can be made to life in today's America and what lessons we can still draw from the past. Students will practice the key Social Studies skills of reading, writing, document analysis, map and chart analysis, and undertake a research project to explore an area of interest and express their knowledge and creativity. This course addresses Whitman-Hanson Student Learning Expectations 1, 3-6.

6101 UNITED STATES HISTORY I Honors 4 Grade 10

US History I traces the development of American society from the Colonial era through Reconstruction, from the generation that created the world's first modern democracy to the generation that tried to tear it apart. Emphasis will be placed on the tremendous social, political, and cultural changes the nation experienced during the first century of its development. Particular focus will be placed on the founding documents and sweeping expansion of the size and scope of the nation and its citizens, on what America was and what it meant to be an American, as those things changed drastically. Honors students will be challenged with a variety of readings and primary source documents, and will discuss and debate the key political, economic, and social issues of the first half of American history. Students will examine America's past through reading, writing, and discussion, and make connections between the struggles of today's society and our not-too-different ancestors to identify key trends. The integral historical research and analysis skills will be practiced and implemented often, especially through the writing of the research paper, a significant requirement of the course. This course addresses Whitman-Hanson Student Learning Expectations 1, 3-6.

Prerequisite: Students should have earned a "B-" or better in a previous Honors course, or Grade 9 teacher recommendation.

6200 UNITED STATES HISTORY II Academic (1900-Present) 4 Grade 11

US History II will focus on United States history, from Industrial America to the present. The course will emphasize the emergence of the United States as a world power and trace the impact on American society of events taking place in Europe and around the world. It will also concentrate on the growth of the American economy and the many, varied reform movements that were organized to address the problems that accompanied the growth of this prosperous, modern nation. Special emphasis will also be placed on the rights and responsibilities of citizens while analyzing how Americans participated throughout the 20th century. Traditional and alternative forms of assessment will become more sophisticated and demanding as students become more mature in grade 11. Additionally, students will complete the state-mandated Civics Project in this class. This course addresses Whitman-Hanson Student Learning Expectations 1, 3-6.

6201 UNITED STATES HISTORY II Honors (1900-Present) 4 Grade 11

US History II will focus on United States history, from Industrial America to the present. The course will emphasize the emergence of the United States as a world power and trace the impact on American society of

events taking place in Europe and around the world. It will also concentrate on the growth of the American economy and the many, varied reform movements that were organized to address the problems that accompanied the growth of this prosperous, modern nation. Special emphasis will also be placed on the rights and responsibilities of citizens while analyzing how Americans participated throughout the 20th century. Traditional and alternative forms of assessment will evaluate students' ability in a variety of areas while emphasis will be placed on analytical essay writing and preparing students to excel with sophisticated techniques of historical reasoning and problem-solving. Students will be introduced to historiography and how history is written and interpreted by professional historians. Students will also be exposed to more primary source material and will be asked to analyze these documents in Document Based Questions. Students will also complete the state-minded Civic Project in this class. The overarching goal of the course will be to prepare competent independent learners who have an interest in studying history in college after high school. This course addresses Whitman-Hanson Student Learning Expectations 1, 3-6.

Prerequisite: Students should have earned a "B-" or better in a previous Honors course, or Grade 9 teacher recommendation.

6300 Advanced Placement UNITED STATES HISTORY 4 Grade 11
The Advanced Placement Program in United States History is a rigorous, college level survey course designed to provide students with the analytical skills and factual knowledge necessary to deal critically with the problems and issues raised by United States history. This course begins in 1491 and goes to the present. There is special emphasis placed on understanding important political, economic, social and cultural themes during this period. Students develop and use the same skills, practices, and methods employed by historians: analyzing primary and secondary sources; developing historical arguments; making historical comparisons; and utilizing reasoning about contextualization, causation, and continuity and change over time. AP U.S. History is a demanding course that assumes a high level of student interest and commitment. The course concludes with an intensive review of American history in preparation for the advanced placement exam given in May. This course addresses Whitman-Hanson Student Learning Expectations 1, 3-6.

6350 Advanced Placement EUROPEAN HISTORY 4 Grades 10 & 12
The Advanced Placement program in European History is a survey course that presents an overview of European History from the Renaissance to the present. Stress will be placed upon those European political, economic, intellectual, and cultural trends that have shaped the modern Western world. Emphasis will also be placed on working with and interpreting primary documents, as well as examining prominent works of art and art movements of the age. As the May exam approaches, focus of the class will shift to specific preparation for the AP exam. This course addresses Whitman-Hanson Student Learning Expectations 1, 3-6.

6400 PSYCHOLOGY Academic 4 Grades 11-12
Students in this course will acquire, process, and apply knowledge of the major domains of psychology to everyday life. Integrated topics will include the scientific study of the behavior and the mental processes of humans. Students will explore a variety of areas in psychology while also getting a background in the foundations of psychology. Topics to be emphasized include, but are not limited to, the history and major perspectives of psychology, the impact of biology on the psychology of humans and the inner workings of biological functions, sleep and dream analysis, altered states of consciousness, sensation and perception, personality development, the process of learning (classical conditioning, operant conditioning, cognitive learning, observational learning) and how the processes can be related to everyday life examples, aspects of memory and forgetting, the origins and categorization of psychological disorders such as schizophrenia and dissociative identity disorder, and the various therapies available to treat mental illness. This course addresses Student Learning Expectations 1, 3 –6.

6450 Advanced Placement PSYCHOLOGY 4 Grades 11-12
AP Psychology is intended to introduce students to the systematic and scientific study of behavior and mental processes. Students will be exposed to the ideas, principles, theories and phenomena associated with each of the major subfields of this discipline. Materials and topics will reflect the typical content of an introductory college course in Psychology. Focus will be upon the methodology used by professionals in this science and its applications. The history, methods, and approaches of Psychology and its development will be explored with a particular emphasis upon the scientific method and major perspectives. Topics to be emphasized include, but

are not limited to memory, intelligence, thinking and problem solving, sensation and perception, the human brain and biological functions, motivation and emotion, stress, developmental psychology, social psychology, abnormal psychology, and psychological therapies. The course is specifically structured to allow students to successfully complete the national AP exam administered in May. As the May exam approaches, focus of the class will shift to specific preparation for the AP exam. This course addresses Student Learning Expectations 1 – 6.

6500 SOCIOLOGY Academic 2 Grades 11-12
Sociology enables students to acquire, process, apply and integrate the principles of society and their effect upon the individual. The basic institutions, the fundamental sociological concepts and major sociological theories comprise the first half of the course. The second half of the course identifies, defines and analyzes specific social problems with an emphasis on ways to solve those problems. Research activities are used to reinforce the student's ability to read, write, and communicate effectively. Among those topics studied are marriage, the family, social stratification, ethnic and racial groups, collective behavior, and social change. This course addresses Student Learning Expectations 1, 3, 5-6.

6560 CURRENT ISSUES: AMERICA AND THE WORLD Academic 2 Grades 10-12
This course brings the student in immediate contact with the major social, political and economic issues facing our country today. International events and problems are investigated closely. Typical areas of weekly study would include: human rights issues, economic developments and trends, superpower confrontations and cultural achievements. Students will read a variety of sources including major newspapers and national magazines. This course addresses Whitman-Hanson Student Learning Expectations 1, 3, 5-6.

6650 ASSASSINATIONS AND THEIR IMPACT ON AMERICAN HISTORY Acad. 2 Grades 11-12
***Formerly entitled Defining Moments in American Political History,* this course is designed to provide a study of selected aspects of American political history through the in-depth analysis of assassinations and assassination attempts of various American presidents and significant political leaders. Motives for these crimes and the existence of conspiracies are explored. Special emphasis is placed on the assassinations of Presidents Abraham Lincoln and John F. Kennedy, the investigations surrounding them, and the impact of these assassinations on American society. This course addresses Whitman-Hanson Student Learning Expectations 1-3, 5- 6.**

6700 GLOBAL STUDIES INDEPENDENT RESEARCH Academic 2 Grades 10-12
Global Studies Independent Research is offered at both the Academic and Honors levels, and is a joint elective of the History and World Language departments. It offers motivated students the opportunity to study a topic of high interest and complete a substantial research paper on the topic. Students will work independently throughout the Semester to research, write, and edit their paper, but will be guided by, and meet regularly with, the Independent Research advisors. This elective is also designed to fulfill the capstone project requirement for those interested in pursuing Global Awareness Certification. This course addresses Whitman-Hanson Student Learning Expectations 1-4, 6.

6710 GLOBAL STUDIES INDEPENDENT RESEARCH Honors 2 Grades 10-12
Global Studies Independent Research is offered at both the Academic and Honors levels, and is a joint elective of the History and World Language departments. It offers motivated students the opportunity to study a topic of high interest and complete a substantial research paper on the topic. Students will work independently throughout the Semester to research, write, and edit their paper, but will be guided by, and meet regularly with, the Independent Research advisors. This elective is also designed to fulfill the capstone project requirement for those interested in pursuing Global Awareness Certification. This course addresses Whitman-Hanson Student Learning Expectations 1-4, 6.

6750 THE VIETNAM CONFLICT: A CRISIS IN CONSCIENCE Academic 2 Grades 11-12
This course presents an overview of America's involvement in Vietnam from 1945-1975 with emphasis placed on the political and military escalation of the conflict, the tensions created at home and abroad and the lessons derived from America's involvement in Vietnam. In addition to studying the war and its effects on the nation, students will focus their attention on the impact of the war on its participants: politicians, soldiers, protesters and Vietnamese peasants. Also, the TET Offensive, My Lai Massacre, and Anti-War Movement will be examined in depth for the important roles they played in testing the moral conscience of Americans and raising the question of America's withdrawal from Vietnam. Students will work with primary source materials

including soldiers' letters, popular music and Vietnamese poetry in order to arrive at conclusions about the War and its lasting impact on those who lived through it. Some form of final assessment, which will be agreed upon by the teacher and the student, will be required. This course addresses Whitman-Hanson Student Learning Expectations 1-3, 5-6. Please note that this class elective is offered every other year. It will be offered in the 2021-2022 school year.

6800 WORLD WAR I: IMPACT ON THE CENTURY Academic 2 Grades 11-12
This course is a survey of the evolution of modern warfare in the Twentieth Century studied through the example of World War I. The course will provide students with an overview of the political, economic and military causes of the war as well as highlight the role played by important figures such as Woodrow Wilson, and Wilhelm II. Students will analyze the impact of the Industrial Revolution on modern warfare. Various forms of assessment will be used to evaluate the students' ability to think and write critically, analyze and solve problems in history, and apply and integrate their knowledge on a number of diverse historical subjects. Students will be required to complete a major project demonstrating their knowledge of the subject and explaining the importance of World War I to the history of the world. This course addresses Whitman-Hanson Student Learning Expectations 1-3, 5-6. Please note that this class elective is offered every other year. It will be offered in the 2021-2022 school year.

6810 WORLD WAR II: IMPACT ON THE CENTURY Academic 2 Grades 11-12
This course is a survey of the evolution of modern warfare in the Twentieth Century studied through the example of World War II. The course will provide students with an overview of the political, economic, social and military causes, events, leaders and historical themes of this war as well as highlight the role played by important figures such as Franklin Roosevelt, Adolf Hitler, and Joseph Stalin. Students will examine the war as an extension of the events surrounding World War I. The course will conclude with students considering the moral implications of "total warfare" by examining America's decision to drop an atomic bomb on Japan in 1945. Various forms of assessment will be used to evaluate the students' ability to think and write critically, analyze and solve problems in history, and apply and integrate their knowledge on a number of diverse historical subjects. Students will be required to complete a major project demonstrating their knowledge of the subject and explaining the importance of World War II to the history of the world. This course addresses Whitman-Hanson Student Learning Expectations 1-3, 5-6. Please note that this elective is offered every other year. It will be offered in the 2022-2023 school year.

6820 CIVIL WAR SHOWDOWN: NORTH VS. SOUTH, 1861-1865 Academic 2 Grades 10-12
This semester history elective course will examine the conflict that occurred between the Northern and Southern States throughout the period of the American Civil War. The purpose of this class is to explore the major topics of the Civil War in the depth that is generally not allotted to the topic in an introductory United States History course. Emphasis will be placed on military and political leadership, military history and battles, technology, life on the home front, role of minorities during the war, and consequences of the war. Students will be responsible for the completion of a research project. This course addresses Whitman-Hanson Student Learning Expectations 1-3, 5-6. Please note that this elective is offered every other year. It will be offered in the 2022-2023 school year.

6821 SEPTEMBER 11 AND THE WAR ON TERROR Academic 4 Grades 10-12
This course looks in detail at the shocking events of September 11, 2001 when the United States was suddenly and deliberately attacked by al Qaeda. How were the attacks planned and carried out? What happened inside the planes and the World Trade Center towers on that fateful morning? What actions did the first responders take to rescue the victims? How did the Bush Administration immediately respond to the attacks? Why did the United States later invade Afghanistan and Iraq in the spring of 2003? Students taking the course will explore these and many other significant questions. In addition, students will examine the roots of modern terrorism, the strategies and tactics of counterterrorism efforts, and the cultural impacts of living in a world threatened by extremist ideologies and political violence. The course will end with a look at the Boston Marathon bombings and America's recent efforts to destroy ISIS and its influence. Among the required readings will be sections from *The 9/11 Commission Report* as well as selected passages from both nonfiction and fiction addressing 9/11 and the War on Terror. Students will also analyze several documentaries and feature films on the same topics. The course will require students to complete frequent homework assignments, participate in class discussions, and research and write a short paper on a related topic of interest. This course addresses Whitman-Hanson Student Learning Expectations 1, 3-6.

6822 THE STRUGGLE FOR FREEDOM AND EQUALITY: AMERICAN HISTORY AND THE CASE METHOD APPROACH Part I Academic 2 Grades 11-12

This elective course is designed specifically for students who are interested in learning more about the history of democracy in American history and the racial, ethnic, gender, and social divisions that persist today. This course will utilize an innovative method of learning history known as the *case method approach* which was developed at the Harvard Business School and promoted by the Federal Judicial Center. Reading materials for the course will be provided by these two institutions. The case method stresses depth over breadth in history and emphasizes both small group discussions and the Socratic classroom format. Part I of the course will focus on the following topics: James Madison, the 'Federal Negative,' and the Making of the U.S. Constitution; Democracy, Sovereignty, and the Struggle over Cherokee Removal; U.S. v. The Amistad: The Mendi Slave Revolt; Reconstruction: The Crisis of 1877; U.S. v. Susan B. Anthony: The Fight for Women's Suffrage.

6823 THE STRUGGLE FOR FREEDOM AND EQUALITY: AMERICAN HISTORY AND THE CASE METHOD APPROACH Part II Academic 2 Grades 11-12

This elective course is designed specifically for students who are interested in learning more about the history of democracy in American history and the racial, ethnic, gender, and social divisions that persist today. This course will utilize an innovative method of learning history known as the *case method approach* which was developed at the Harvard Business School and promoted by the Federal Judicial Center. Reading materials for the course will be provided by these two institutions. The case method stresses depth over breadth in history and emphasizes both small group discussions and the Socratic classroom format. Part II of the course will focus on the following topics: Chew Heong v. U.S.: Chinese Exclusion and the Federal Courts; MLK Jr. and the Struggle for Black Voting Rights; U.S. v. Cassius Clay: Muhammad Ali's Fight against the Vietnam Draft; Democracy and Women's Rights in America: The Fight over the ERA; Manufacturing Constituencies: Race and Redistricting in North Carolina.

6900 Advanced Placement US GOVERNMENT & POLITICS 4 Grade 12

AP United States Government and Politics is a highly structured, demanding college-level course. In this course students develop analytical perspectives for interpreting, understanding, and explaining political events in this country. Subjects covered include the constitutional framework of the government, institutions such as Congress, the presidency, the bureaucracy, and the courts, public opinion and the media, political participation and voting behavior, political parties, interest groups, civil liberties and rights, and policymaking. The course is conducted using a variety of methods including lecture and discussion, debates, simulations, cooperative learning activities, and independent research. Students making the commitment to AP Government should expect and accept the reading, writing, and research demands appropriate to a college level course. Students are expected to take the Advanced Placement Exam in May. This course addresses Whitman-Hanson Student Learning Expectations 1-3, 5-6.

PHYSICAL EDUCATION/HEALTH

The Physical Education/Health program provides opportunities for students to improve and maintain a "healthy" level of physical fitness through small/large group exercise opportunities and individual/team sports activities. The exercise component of the program is assessed through standardized fitness testing. Coeducational classes in most program areas are designed to provide opportunities for social interaction among students, to improve basic motor skills, and to develop understanding of rules and safety procedures associated with human movement. A primary goal of the Physical Education/Health program is to assist students to develop fitness skills to use during their adult life. The Health classroom component will focus on information that will help provide students with the tools to make healthy choices to improve their current and future quality of life. The opportunity for students to develop a positive self-image, learn a respect for human life, and develop cardiovascular efficiency are another important aspect of our program. Physical Education/CPR will deal with more advanced PE activities and will include a classroom component focusing on C.P.R. (Cardiopulmonary Resuscitation).

Physical Education I & II and Health must be taken before entering the junior year; PE I in the freshman year and PE II in the sophomore year. Health may be taken in either year. At least 6 credits must be earned before the junior year. During their junior or senior year, students must take Physical Education/CPR. The remaining two (2) required credits can be taken from the Physical Education elective category.

COURSE	CREDITS	GRADE

7010 PE I – FRESHMEN FITNESS AND WELLNESS 2 Grade 9

This coeducational class will introduce students to the importance of physical activity as a component of every healthy lifestyle; it is designed to help students develop the necessary understanding and skills to enhance their decisions regarding personal health and wellness. Students will be introduced to a variety of health and wellness areas that are included in and related to the components of physical and emotional health. Students will assess their current fitness levels and set goals for self-improvement through their understanding of each component of health-related fitness (flexibility, muscular endurance, muscular strength, body composition and cardiovascular endurance), and will learn the basics of weight training, nutrition, yoga, and meditation.

7021 NET SPORTS & COOPERATIVE GAMES (PE TRACK) 2 Grade 10

The purpose of this class is to introduce students to the basic skills and knowledge associated with playing a variety of racquet sports and cooperative games such as tennis, badminton, pickleball, etc. The ultimate goal of this class is to provide students with the knowledge and skills necessary for them to pursue playing racquet sports as a life-long activity. The cooperative games portion of this course will provide students with opportunities to develop a satisfactory individual level of physical fitness, acquire knowledge of fitness concepts and demonstrate an understanding of how a wellness lifestyle affects one's health, fitness and physical performance while providing an environment for all students to practice positive personal and social skills.

7022 FITNESS, DANCE & YOGA I (WELLNESS TRACK) 2 Grade 10

This course is designed to provide cardiovascular and strength enhancement through participation in a fitness and wellness program. It is designed to create opportunities for sound decision making as well as lifetime wellness and fitness choices. Selected strength training and cardiovascular equipment will be utilized. A pre-assessment of one's current level of fitness will aid in the ability to set goals, and a post-assessment will determine improvements, as well as areas needing continued emphasis. Healthy lifestyle information will also be presented in order to make fitness and wellness a lifelong goal. Areas covered may include, but are not limited to: cardiovascular fitness, stress management, nutrition, and yoga.

7030 HEALTH 2 Grade 9 or 10

This required course is designed to increase the student's knowledge and understanding of the physical, mental, and social aspects of well-being. Lessons will encourage students to develop a positive self-concept while managing obstacles and responsibilities. Students will classify potentially harmful actions/risks, identify individual boundaries and goals, and practice socially acceptable behavior. It will prepare students to make informed decisions regarding, but not limited to, adolescence, fitness & nutrition, human sexuality, drug & alcohol use, death & dying and stress management. Above mentioned topics will be subdivided as deemed necessary by the instructor

7041 INDIVIDUAL & TEAM SPORTS (PE TRACK) 2 Grade 11

This class is designed to teach students different individual and team sports while enhancing personal and social behaviors. The course is also designed to elicit opportunities to advance individual skill levels in different sports. Emphasis is placed on the rules, skills, and strategy of sports such as badminton, floor hockey, ultimate Frisbee, volleyball, etc. This course includes a CPR component.

7042 FITNESS, DANCE & YOGA II (WELLNESS TRACK) 2 Grade 11

This course is designed to provide continued cardiovascular and strength enhancement through participation in a fitness and wellness program. It is designed to create opportunities for sound decision making as well as lifetime wellness and fitness choices. Selected strength training and cardiovascular equipment will be utilized. A pre-assessment of one's current level of fitness will aid in the ability to set goals, and a post-assessment will determine improvements, as well as areas needing continued emphasis. A selection of lifetime and yard games will be included in the curriculum. Areas covered may include, but are not limited to: cardiovascular fitness, stress management, yard games, and yoga. This course includes a CPR component.

7100 TEAM & LIFETIME SPORTS - Elective 2 Grades 11-12

Through participation in several sports, students will gain the knowledge necessary to become an educated

participant and spectator. The involvement in specific sports will provide an atmosphere that is enjoyable to the participants promotes cooperation among peers and develops an appreciation for the degree of fitness necessary to participate. The following sports are included in the course: yard games, soccer, flag football, ultimate Frisbee, kickball, floor hockey, badminton, etc.

7111 GROUP FITNESS & WELLNESS - Elective 2 Grades 11-12

This elective will focus on overall individual strength and conditioning using various types of equipment and methods. Activities will incorporate the five fitness components primarily utilizing programs such as Insanity, Focus T25, Hip Hop Abs, P90x, etc. Students will be introduced to cardiovascular endurance, power via plyometrics, strength via body weight exercises, and muscular endurance through motivational videos in a class setting.

7114 SPORTS MEDICINE - Elective 2 Grade 12

Sports Medicine emphasizes the prevention of athletic injuries, including the components of exercise science, anatomy, principles of safety, first aid, cardiopulmonary resuscitation (CPR), and vital signs. Subject matter also includes legal issues, members of the sports medicine team, nutrition, protective sports equipment, environmental safety issues, mechanisms of injury, and application of other sports medicine concepts. Students interested in healthcare careers in athletic training, physical therapy, medicine, exercise physiology, nursing, biomechanics, nutrition, psychology, and radiology will benefit from this course. opportunity to become Successful completion of this course is equivalent to two credits of a physical education elective.

7130 WEIGHTS & CARDIO - Elective 2 Grades 11-12

This elective course is designed to provide students with an opportunity to develop fitness through weight training, circuit training, plyometrics, core strengthening, agility, and flexibility training. Students will be exposed to a variety of weight training and fitness programs that will enable them to discover which are best suited to their individual needs. Students will also be educated in proper lifting techniques, safety factors, and muscle development in order to make them capable of developing their own weight training/fitness program

SCIENCE

Science and technology will continue to impact on our society. It is essential that we understand and value the contributions of science and technology, how they are carried out and how they will continue to affect humankind.

The courses offered by the Science Department provide educational opportunities for the study of science to students of varied interests and abilities. They provide a broad base for students seeking a general education and whose formal education will terminate at the high school level, as well as students who plan to pursue post-secondary education. The courses endeavor to develop logical reasoning, problem solving and the useful application of knowledge as well as promote the students' self-reliance, self-discipline, and self-esteem while imparting the values of citizenship, democracy, and respect for one's fellow man. In addition, they emphasize those communication skills basic to all learning: reading, writing, speaking, listening and viewing.

It is expected that each student will acquire an understanding of the nature of science and the scientific approach; obtain a scientific literacy which will enable the student to understand the various interrelationships between science and society; acquire or become aware of a variety of interests which may lead to positive habits and a possible vocation; increase his/her understanding of the concepts and theories which describe and unify the fields of science and learn various useful manipulative skills. To this end, all science courses will require students to design and conduct a scientific investigation related to the topic of study.

The Science Department is committed to providing students with educational experiences that enable them to pursue mastery of the following Whitman-Hanson student expectations:

(1) Read, write and communicate effectively
(2) Utilize technologies appropriately and effectively.
(3) Apply critical thinking skills.
(4) Explore and express ideas creatively.

(5) Participate in learning both individually and collaboratively.

(6) Demonstrate personal, social, and civic responsibility.

Successful completion of 12 credits in science is required of all students for graduation. Students entering grade 9 must enroll in Biology I (course 8200 or 8930) in preparation for taking the science MCAS exam (a state graduation requirement) at the end of 9th grade. Upperclassmen should utilize the Science Advising Guide (below) for suggested course sequences based upon career interests.

W-H Science Advising Guide

Your Interest:	**Recommended Courses:** **(Consult course descriptions for details)**
Whitman-Hanson Science Graduation Requirements: ● All students must earn 12 science credits ● All Students must pass a science MCAS exam	**Pick from the following classes:** ● **Biology I Academic** ● **Biology I Honors** ● All grade 9 students take Biology – The biology MCAS exam is given in early June.
Business, Culinary Arts, World Language, History, Language Arts, Visual Arts	**Take this sequence of courses:** ● Grade 10 – Introductory Physics or Physics H, or Chemistry ● Grade 11 – Introductory Physics or Physics H, or Chemistry ● Grade 12 – Environmental Science ○ or any other science electives
Technology (Computers), Engineering or Mathematics	**Take this sequence of courses:** ● Grade 10 – Introductory Physics or Physics H, or Chemistry ● Grade 11, 12 – Engineer Your World ● Grade 11 – Physics H, Robotics ● Grade 12 – AP Physics
Life Science Careers: Biology, Marine Biology	**Take this sequence of courses:** ● Grade 10 – Chemistry, Marine Biology I, II ● Grade 11 – AP Biology or AP Chemistry or AP Env Science, Marine Biology I, II ● Grade 12 – AP Biology or AP Chemistry, AP Physics or AP Env Science
Education	**Take this sequence of courses:** ● Grade 10 – Chemistry, Introductory Physics and Marine Biology I ● Grade 11 – AP Biology or AP Chemistry or AP Env Science and Marine Biology II ● Grade 12 – AP Biology or AP Chemistry, AP Physics or AP Env Science
Medicine and Nursing	**Take this sequence of courses:** ● Grade 9 – Biology H ● Grade 10 – Chemistry H and AP Biology ● Grade 11 – AP Chemistry and Physics H ● Grade 12 – AP Physics, Anatomy & Physiology
Trades such as Auto Mechanic, Carpentry, Electrician, Plumbing or Civil Careers such as Police or Fire or Military	**Take this sequence of courses:** ● Grade 10 –Engineer Your World I and II or Introductory Physics ● Grade 11 – Introductory Physics, Physics H or Chemistry or Engineer your World ● Grade 12 – Physics ○ **OR** Environmental Science **OR** other science elective
Environmental Science, Sustainable Energy	**Take this sequence of courses:** ● Grade 10 – Chemistry, Marine Biology I, II ● Grade 11 – AP Biology or AP Chemistry or AP Environmental Science, AP Physics or Engineer Your World ● Grade 12 – Environmental Science

COURSE **CREDITS** **GRADE**

8000 INTRODUCTORY PHYSICS Academic **4** **Grades 10-11**

In this course students will study the basic principles of physics with an emphasis on the study of the scientific method, forces & motion, conservation of mass & energy, heat transfer, and electricity & waves. Students will

also participate in design process explorations. This course meets Whitman-Hanson Student Learning Expectations 1-3 and 5.

Prerequisite: Two years of academic level math. The second year may be taken concurrently with this course.

8100 MARINE BIOLOGY I - The Invertebrates 2 Grades 9-10
This course studies the basic principles of marine biology and classification of animals. This is an introductory survey course. Students will read, write and communicate effectively while focusing on marine invertebrates such as squid, sea stars, sponges, crabs and jellies. We will also investigate the relationships between the animals and the unique ecosystems in which they live. Class will involve the extensive use of the Internet, labs in which dissection is done to compare and contrast the anatomies of several invertebrate species, a major project to be completed at home and the viewing of informative videos to further our knowledge of the marine environment. This course meets Whitman-Hanson Student Learning Expectations 1-3 and 5.

This course is a prerequisite for Marine Biology II.

8110 MARINE BIOLOGY II - Fishes, Birds and Turtles 2 Grades 9-12
This course is an extension of Marine Biology I - The Invertebrates which is a prerequisite for this course. Students must have passed Marine Biology I in order to take this class. In this course, we will be discussing Vertebrate animals that inhabit the ocean including: marine fishes (sharks, skates, rays and then bony fishes), followed by marine reptiles (sea turtles) and birds (penguins and seabirds). Class will involve extensive use of the Internet, a dogfish shark dissection, a major project to be completed at home, and the viewing of informative videos to further our knowledge of these incredible marine animals. This course meets Whitman-Hanson Student Learning Expectations 1-3 and 5.

Prerequisite: Successful completion of Marine Biology I – The Invertebrates.

8120 MARINE BIOLOGY II - The Marine Mammals 2 Grades 9-12
This course is an extension of Marine Biology I - The Invertebrates which is a prerequisite for this course. Students must have passed Marine Biology I in order to take this class. In this course, we will be discussing marine mammals that inhabit the ocean including: whales, dolphins, porpoises, seals, sea lions, polar bears, manatees and walrus. Class will involve extensive use of the Internet, a major project to be completed at home, a major in-class project concerning the conservation of marine vertebrates and the viewing of informative videos to further our knowledge of these incredible marine animals. This course meets Whitman-Hanson Student Learning Expectations 1-3 and 5.

Prerequisite: Successful completion of Marine Biology I – The Invertebrates.

8130 ASTRONOMY Academic 2 Grades 9-12
This introductory course focuses on the Electromagnetic Spectrum (analyzing sunlight) and its applications in Astronomy (using light to investigate extrasolar planetary systems), understanding our solar system and the factors which stabilize it (models of the solar system, gravity, planets, and celestial objects), concepts of cosmology (Milky Way Galaxy, cosmos past & present and life in the cosmos), current research and NASA missions in space, using a reflecting and refracting telescope and spectroscope, and stellar evolution (star birth and death). This course meets Whitman-Hanson Student Learning Expectations 1-3 and 5.

8200 BIOLOGY I Academic 4 Grades 9 or 10
This course uses a factual approach to the study of the basic principles of biology and develops into an examination of molecules into organisms, ecosystems, heredity, and biological evolution. Major units of study include structures and processes of the cell; interactions, energy, and dynamics of ecosystems; inheritance and variation of traits; and unity and diversity of evolution. This course meets Whitman-Hanson Student Learning Expectations 1-3 and 5.

8230 BIOLOGY I Honors 4 Grades 9 or 10
The goal of this course is to provide the student with an increased opportunity for advanced study and a broad background in biology. This course is recommended for the student who has shown a high degree of interest in previous science and mathematics courses and plans to enroll in Advanced Placement science courses. The

topics considered are similar in structure to the conventional Biology I at the Academic level. This course is presented in more depth and at an accelerated pace. Students are exposed to academic rigor through a series of Pre-AP Biology labs and activities that require the utilization of advanced critical thinking skills. Biology Honors demands a commitment to academic excellence and more independent involvement on the part of the student. This course meets Whitman-Hanson Student Learning Expectations 1-3 and 5.

Prerequisite: Science Curriculum Coordinator or Grade 8 teacher recommendation is strongly suggested

8300 ENGINEER YOUR WORLD Academic 4 Grades 11-12
***Engineer Your World* is an innovative high school engineering curriculum for students who want to learn more about engineering and its role in shaping our world. This hands-on course engages students in authentic engineering practices in a project-based environment. It is imperative that students be self-motivated and capable of working on projects without constant oversight. By scaffolding student learning over a series of engaging and socially relevant design challenges, the curriculum tells students the story of engineering as they develop design skills and engineering habits of mind. The class requires students to keep an engineering notebook which is integral to being successful in the class. This course meets Whitman-Hanson Student Learning Expectations 1-3 and 5.**

Prerequisite: Geometry, which may be taken concurrently with this course.

8350 Advanced Placement BIOLOGY 4 Grades 10-12
The Advanced Placement Biology Program is a college level course offered in high school. Students electing this course should be highly motivated and should exhibit a strong interest in science. Course content will be predicated upon the syllabus of the Advanced Placement Program and will include many levels of organization such as molecular, cellular, population, organisms, organ and tissue and others. Concepts related to each level of organization and to the entire syllabus will be explored, analyzed and discussed. Advanced placement students are expected to do considerable outside reading on topics that cannot be covered in class. Laboratory work is extensive and is correlated to the material being discussed. A lab report must be completed at the conclusion of each experiment. In addition to the development of laboratory procedures and techniques, cognitive skill development focuses upon critical thinking. Initiative, responsibility and the quest for excellence are attitudes fostered. This course culminates in the student taking the Advanced Placement Biology Exam. This course meets Whitman-Hanson Student Learning Expectations 1- 3 and 5.

8400 CHEMISTRY I Academic 4 Grades 10–12
This course includes the study of the fundamentals of chemistry, measurement in chemistry, matter and changes in matter, atomic structure, the Periodic Law, chemical bonding, the composition of compounds, writing and balancing chemical equations, the mathematics of chemical equations, and solutions. This is a course that requires some background in solving mathematical problems. Laboratory study is an important part of this course which includes the scientific method, laboratory technique, laboratory safety, data collection and analysis. A scientific calculator is required for this course. This course meets Whitman-Hanson Student Learning Expectations 1-3 and 5.

Prerequisite: Algebra I, which may be taken concurrently with this course.

8420 CHEMISTRY I Honors 4 Grades 10–12
The goal of this course is to provide the student with an increased opportunity for advanced study and a broad background in chemical principles through greater use of modern theories and principles. This course is recommended for the student who has shown a high degree of interest in previous science and mathematics courses and plans to enroll in Advanced Placement science courses. The course is presented in more depth with more challenging coursework. The topics are similar in structure to the conventional Chemistry at the Academic level. Chemistry Honors demands a commitment to academic excellence. Students are exposed to academic rigor through a series of Pre-AP Chemistry labs and activities that require the utilization of advanced critical thinking skills. Students in this course will be expected to do more independent work outside of the classroom. A scientific calculator is required for this course. This course meets Whitman-Hanson Student Learning Expectations 1- 3 and 5.

Prerequisite: A grade of B or better in Algebra I is strongly recommended and Science Curriculum Coordinator recommendation.

8500 Advanced Placement CHEMISTRY 4 Grades 11-12
This course is designed to be the equivalent of the general chemistry course usually taken during the first year of college. It is designed to be taken only after the successful completion of a first year course in high school chemistry. Students in this course will attain a depth of understanding of fundamentals and competence in dealing with chemical problems. Material covered will include atomic theory and structure; chemical bonding; states of matter; solutions; reaction types; stoichiometry; equilibrium; acids, bases, and salts; kinetics; thermodynamics; and electrochemistry. Laboratory study is an important part of this course and continues the development of the skills learned in first year chemistry including the scientific method, laboratory technique, laboratory safety, data collection and analysis. Formal lab reports will be required. This course culminates in the student taking the Advanced Placement Chemistry Exam. This course meets Whitman-Hanson Student Learning Expectations 1-3 and 5.

Prerequisites: A grade of B or better in Chemistry I Honors and Algebra II is strongly recommended.

8570 PHYSICS Honors 4 Grades 10-12
This course provides an understanding of the theory and practical applications of matter, energy, measurement, problem solving, kinetics, dynamics, forces, heat, and relativity at an accelerated pace. Mathematical derivations of formulas used in the course laboratory work are an important part of this course. A background in algebra, geometry, and problem solving is required. Graphing calculators are recommended for this course. This course meets Whitman-Hanson Student Learning Expectations 1-3 and 5.

Prerequisite: Two years of academic level math. The second year may be taken concurrently with this course.

8650 Advanced Placement PHYSICS 1 4 Grades 11-12
The AP Physics course is designed to enable the student to develop the ability to reason about physical phenomena using important science process skills such as explaining causal relationships, applying and justifying the use of mathematical routines, designing experiments, analyzing data and making connections across multiple topics within the course. This AP Physics course is equivalent to the first semester of a typical introductory, algebra-based physics course. Students will develop scientific critical thinking and reasoning skills through inquiry based learning, while exploring topics such as Newtonian mechanics (including rotational motion); work, energy, and power; mechanical waves and sound; and introductory, simple circuits. Laboratory work is an important part of this course. This course culminates in the student taking the Advanced Placement Physics Exam. This course meets Whitman-Hanson Student Learning Expectations 1-3 and 5.

Prerequisite: Pre-Calculus which may be taken concurrently with this course.

8765 ENVIRONMENTAL SCIENCE Academic 4 Grades 11-12
Like all other sciences, environmental science is a process of satisfying our curiosity about why things are the way they are and about how things happen the way they do. In this course students will begin to understand the importance of the interaction between energy and the Earth, air, & water. Major topics include the history of humans & the environment, ecology, the atmosphere, weather, plate tectonics, and populations. Students will explore ways that human activity is involved in climate change and recognize that Earth is an integrated system. Other topics include the fundamentals of energy use in our society. Students will investigate non-renewable and renewable sources of energy through various classroom activities involving problem-solving and the design process. Additionally, students will be expected to assess alternatives, risks, costs and benefits associated with society's waste problems, particularly those involving new research and new technologies. Human health problems that are related to natural and human-produced pollution will be investigated. This is an integrated study emphasizing those scientific principles that are both relevant and vitally important to everyone. The course includes a major unit concerning global warming, alternative energies and green buildings. There will be a series of energy oriented engineering projects with a concentration on "doing more with less." The challenge of this course is for students to think for themselves. Students will be expected to participate in various classroom activities which will increase their knowledge and skills in environmental science. This course meets Whitman-Hanson Student Learning Expectations 1-3 and 5.

8770 Advanced Placement ENVIRONMENTAL SCIENCE 4 Grades 11-12
This course is designed to provide students with scientific principles, concepts, and methodologies necessary to comprehend the relationships abundant within the natural world, to identify and analyze environmental problems, to evaluate relative risks associated with these identified problems, and to examine alternative solutions for resolving and/or preventing similar problems facing the global environment. It will also include the focus and discussion of political, social, and cultural impacts of global environmental problems. This course culminates in the student taking the Advanced Placement Environmental Science Exam. This course meets Whitman-Hanson Student Learning Expectations 1- 3 and 5.

8800 ANATOMY AND PHYSIOLOGY Academic 4 Grades 11-12
Anatomy and Physiology is a challenging, laboratory-based course that investigates the structure and function of the human body. Topics covered will include the basic organization of the body, physiological components, and great detail of major body systems along with the impact of diseases on certain systems. Students will engage in many topics and competencies related to truly understanding the structure and function of the human body. An abundance of anatomical terminology will be learned and applied through reading materials, study guides, unit worksheets, group work, projects, dissections, and labs. High levels of achievement will be expected. Students will be responsible for proper use of lab equipment and projects assigned throughout each unit. One of the goals of this course is to prepare students with the skills necessary to be successful in future science classes in college. This course meets Whitman-Hanson Student Learning Expectations 1-3 and 5.

8851 ROBOTICS 2 Grades 11-12
This engaging, hands-on course will give students a background in robotics. Students will learn about this exciting field as they construct a functioning robot. Topics include basic mechanics, the engineering design process, considerations for robots in a modern world, CAD, and fundamentals of programming. The course culminates in a robotics competition between students in class. This course meets Whitman Hanson Student Learning Expectations 1-3 and 5.

Prerequisite: Successful completion of one year of study in Physics and Algebra II.

Whitman-Hanson Regional High School
Graduation Requirement Checklist

English (credits 16 – English every year)
English I _____
English II _____
English III _____
English IV _____

Math (credits 16- math required every year)
Geometry _____
Algebra I _____
Algebra II _____
_____ _____
_____ _____

Science (credits 12)
Biology _____
Physics, Chemistry or AP_____
_____ _____
_____ _____

Social Studies/History (12 credits)
Modern World History_____
US History I _____
US History II _____
_____ _____

Physical Education/Health (10 credits)
Grade 9 PE _____
Grade 10 PE_____
Grade 11 PE_____
Grade 12 PE_____
Health _____

World Language (8) – Please note that many selective colleges often require more than two years of a world language
_____ _____
_____ _____
_____ _____

Computer Literacy (4 credits)
Financial Lit _____
_____ _____

Additional Credit Courses
_____ _____
_____ _____
_____ _____
_____ _____
_____ _____
_____ _____
_____ _____
_____ _____
_____ _____
_____ _____
_____ _____
_____ _____

MCAS Scores
ELA _____
Math _____
Science _____

Computer Literacy/Technology (6 credits)
Computer Literacy/Technology credits may be earned in the following courses:
Financial Literacy, Investing Your Money, Entrepreneurship, Accounting, Digital Photography, Music Technology I & II, Web Page Development, Intro to Computer Programing, Intro to TV/Radio Production, TV/Radio Production II, Computer Graphics I & II, Computer Aided Design I & II, AP Computer Science, Intro to Computer Programming, Visual Merchandising, and Robotics.

The sequence above indicates a college preparatory (academic/honors) program. Please consult with your teachers and school counselors for Advanced Placement recommendations.

Whitman-Hanson Regional High School
Suggested Sequence of Courses

Please Note: This form may be used to help students and parents plan out the four years of education at Whitman-Hanson Regional High School. The outline below reflects a typical college preparatory sequence of courses. It is for planning purposes only and does not reflect the actual schedule of a student for any particular year.
You must take 6 out of 7 classes each semester. Consult with your teachers and counselors to help you choose the courses that are right for you.

Grade 9

Credits	Course
4	English I
4	Geometry
4	Biology
4	Modern World History
2	PE
2	Health
4	World Language
___	_____
___	_____

Grade 10

Credits	Course
4	English II
4	Algebra I or Algebra I/II Honors
4	Physics, Chemistry, or AP Science
4	US History or AP European History
2	PE
4	World Language
___	_____
___	_____
___	_____

Grade 11

Credits	Course
4	English III
4	Algebra II or Other Math Choice
4	Chemistry, AP Science, or Sci Elective
4	US History II or AP US History
2	PE
4	World Language Suggested
___	_____
___	_____

Grade 12

Credits	Course
4	English IV
4	Math
2 or 4	Science Elective or AP Science
2 or 4	Social Studies/History Elective
2	PE
4	World Language Suggested
___	_____
___	_____

The Whitman-Hanson R.S.D. guarantees all students regardless of race, gender, sexual orientation, gender identity, color, religion, national origin, disability or homelessness, equal and unbiased treatment in all aspects of public education. This policy of nondiscrimination extends to and includes admission to programs and activities in accordance with Title IX of the educational amendments of 1972 and Section 504. Any equity questions relating to students and programs at the High School level should be directed to Dr. Christopher Jones, Principal, David Floeck, Section 504 Coordinator or George Ferro, Title IX Coordinator.